THE IMPACT OF PERSONAL TAX PREPARATION SOFTWARE PROGRAMS ON TAX PROFESSIONALS

A Senior Honor Thesis

Presented in Fulfillment of the Requirements for

Graduation with Distinction in Accounting

By

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This project is dedicated to
Professor Raymond J. Krasniewski
and Professor John Butler without whose help
I would not have completed this project

Abstract

The researcher used survey research to determine whether or not tax return professionals feel threatened that their clients might switch to using personal tax software to self-prepare their returns. The researcher also tried to determine whether non Big-5 tax professionals feel more threatened than Big-5 professionals. The two general hypotheses are basically: 1) tax return professionals do not feel threatened by the software and 2) non Big-5 professionals feel more threatened than non Big-5 professionals. The researcher further developed more specific hypotheses based on the general hypotheses and the survey questions. The researcher also looked at various trends in an attempt to answer whether or not tax return professionals should feel threatened. The observed trends include computer/Internet use, software use, tax return fees, number of tax return professionals, and tax filing data. The researcher mailed 255 surveys to various tax professionals/offices in Cincinnati, Cleveland, and Columbus. The researcher took many precautions to obtain a good response rate. He achieved an overall response rate of 72%. The survey results do not support all of the specific hypotheses, however they do support the general hypotheses. Through the trend data, the researcher decided that tax professionals should not feel threatened. The researcher offered advice on improving this research for anyone who might want to expand upon it in the future.

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List of Exhibits

I. Introduction

A. Purpose

The overall purpose for this research project is to answer three questions. The first question is whether or not tax return professionals, in general, feel threatened that their clients might switch to using personal tax preparation software programs to self-prepare their returns. This question is answered through survey research directed toward tax return professionals. Likewise, the second question of whether non Big-5 professionals feel more threatened than Big-5 professionals is also answered through the survey research, which can be found in sections IV and V of this research paper. The last question this research project addresses is whether or not tax return professionals should be worried that their clients will switch over to using the software within the next 10 years. The last question is answered by looking at current trends from IRS tax statistics, H&R Block 10-K SEC filings, New York Times Almanac, and Bureau of Labor Statistics data.

B. Original Idea and Approach

I wrote a paper on this topic for my Accounting Information Systems (AIS) class in the spring of 1999. A lot of credit for coming up with the idea for this research goes to my AIS Professor John Butler of The Ohio State University. I told Professor Butler that I was interested in writing a paper on personal tax preparation software programs, such as TurboTax. Professor Butler suggested that I write a paper on how the development of the tax software programs has impacted tax professionals. After performing the research and writing the paper on the topic, I still could not completely answer the three questions that this research project addresses with complete confidence. Although I had found some

interesting articles that suggested that some tax professionals did not feel threatened by the software, I did not find any previous research studies on the topic. Therefore I've mailed surveys to tax professionals in an attempt to determine whether or not they feel threatened by the development of the software programs.

The article that first sparked my interest in sending out a survey was a 1994 Fortune article titled, "Making your financial software pay." In this article Robert J. Garner, an Ernst & Young tax expert, comments that consumer tax software "generally makes sense for people who earn between $40,000 and $150,000 a year." Mr. Garner further suggests that below this range it's almost silly and inconvenient to use the software for a simple return. He also suggests that above this range people's returns are usually so complex that they wouldn't know where to start or where to look for errors that the software did not correct. This article shaped my original idea for structuring my survey (Aley, Martin, and Spiers 1994). On the survey I planned to ask tax professionals how much their average clients made in annual income, so I could make comparisons by dividing the results into three groups: below $40,000, $40,000 to $150,000, and above $150,000. After my project advisor and I talked the idea over, we decided that most firms would not want to give out income information about their clients. I finally decided to divide the survey target audience into two groups: Big-5 professionals and non Big-5 professionals.

Originally, I had planned on interviewing TurboTax software developers to supplement my research. I had wanted to take a research trip in December 1999 to California to personally interview one or two software developers and to learn a little about the software development process. A couple of specific things that I wanted to learn

from visiting the software developers were: (1) did experienced tax professionals help design the programs and (2) did the company have incentives to avoid excessively improving the personal tax programs to preclude hurting the company's business of selling professional tax software. Unfortunately, after several phone calls to the Intuit corporate office in Mountain View, California, a company HR representative informed me that the software developers would be too busy to perform interviews and that any information not available on the company web site was proprietary information that they could not share.

C. Research Paper Structure

I've structured this research paper in a way that should make it easy for its readers to follow along. First, I've divided the paper into seven major sections: 1) Introduction, 2) Trends, 3) Developing the Hypotheses, 4) Survey, 5) Analyzing Data/Testing, 6) Conclusion, and 7) Appendices. Then I further divided each section into subsections. The paper is in outline form with each section and subsection represented by Roman numerals and capital letters respectively. The exhibits and appendices are labeled in the order that each is first mentioned in each particular section. For example, the exhibit on Personal Computer Prices is Exhibit II-1, because it is the first exhibit that appears in Section II (Trends). The Table of Contents, which is located at the beginning of the research paper, lists all sections and subsections in outline form with the beginning page number of each section or subsection listed to the right. The Reference section, located at the end of the research paper, is in standard alphabetical order.

D. On-line Tax Preparation

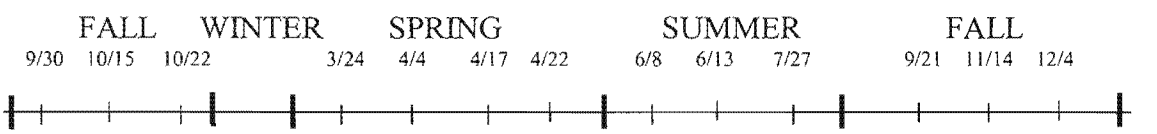
One of the things that currently makes this research topic interesting is the recent surge of companies offering relatively inexpensive tax preparation services on-line. A recent (May 2000) Accounting Technology article describes how more and more companies are offering on-line tax preparation, which has triggered a price war that has resulted in low on-line prices. In the article, Alexander (2000) claims "professional preparers may be wondering what impact this will have on their future." The article further suggests that tax professionals who position themselves as a value-added tax advisor probably do not have to worry about the on-line programs taking away their business, but professionals who are positioning themselves as tax preparers alone should be worried. However, the article later suggests that the on-line tax programs target the do-it-yourselfers group, not the group that currently sees tax professionals. Another interesting idea that Alexander points out is that not all on-line services are the same nor are their customers. H.D. Vest is a financial planning company that uses free on-line tax preparation as an enticement for its other financial planning services, and more than half of H.D. Vest's customers are males who make more than $50,000. On the other hand, customers of Intuit's Quicken Turbotax web site tend to be women with annual household incomes of less than $50,000. Also, Intuit has been forced to cut the prices of its on-line tax services from $19.95 to $9.95 per return (Alexander 2000).

A recent Business Wire article mentions a free online tax preparation service for individual federal and state returns that will be offered for the 2000 tax year at FreeTaxPrep.com. The company expects an "explosion in individual online tax filings" for the 2000 tax year. The article claims the "Internal Revenue Service has set a goal to

electronically file over 80% of all individual tax returns by 2007" (Traw 2000). The IRS lists a number of cheap tax preparation services, their prices and links on the IRS web site. The listed services include those from companies such as H&R Block, TurboTax, H.D. Vest, and Jackson Hewitt. The services are all free if one is filing a 1040EZ, and H.D. Vest offers free services for all returns regardless of income level or complexity. I believe the companies offer free 1040EZ return services so people will feel at ease with the service when they eventually qualify for a more expensive return.

E. Project Timeline

The work of this project is spread out primarily over four quarters: Fall 1999, Spring 2000, Summer 2000, and Autumn 2000. Although I had originally planned on writing each of the various sections during the academic quarters, due to class workloads I wrote the bulk of the research paper during the Spring to Summer 2000 break and the Summer to Fall 2000 break. I did perform nearly all of the survey work and a lot of the Trends section research during the Spring 2000 quarter. Below is a timeline with most of the important project dates followed by brief descriptions of the project work or event.



Sept. 30 - Began calling the Intuit corporate office in Mountain View, California (phone number: 650-944-6000). The secretary referred me to a couple different Human Resource representatives, who were all out of the office.

Oct. 15 - Found out that a research trip to visit Intuit was not feasible.

Oct. 22 - Presented my preliminary survey to my project advisor.

Winter Internship - No research work performed during Winter 2000 quarter.

Mar 24 - The Fisher College of Business Accounting department gave me a mailing/phone list of company representatives who attended a university recruiting event. I added points of contacts to the list from various offices in Cleveland, Cincinnati, and Columbus.

April 4 - Began calling each firm or agency from the list and tried to get an interested point of contact. Gathered information from each point of contact.

Apr. 17 - Tax busy season ended.

Apr. 22 - Addressed envelopes, printed cover letters and surveys, and mailed 255 surveys.

June 8 - Received the last four surveys for a total of 177 respondents: 85 Big-5 and 92 non Big-5.

June 13 - Finished the Survey and Analyzing the Data/Testing sections. My advisor and I met with statistics lab personnel to discuss hiring procedures of statistical consultants. I gave a copy of my research project to date to both my advisor and the statisticians.

July 27 - Met with statistical consultants. They gave me their independent report on my project.

Sep. 21 - Completed the preliminary copy of my research project and submitted the copy to my advisor for review.

Nov. 14 - Defended my project.

Dec. 4 - Completed the final copy of my research project.

II. Trends

A. Retrieving BLS Data

I decided to look at some basic trends to help support my conclusion in Section VI as to whether or not tax professionals should be worried that many of their clients will switch over to using the tax software to prepare their returns. These trends are: computer/Internet use, software use, tax returns, tax return professionals, and tax filers/labor force. The consumer price index, tax professionals, and labor force information in this section come from the Bureau of Labor Statistics (BLS) home page.

In order to make it easier for researchers to further this research in the future, I have provided in depth instructions in each exhibit (Exhibits II-1, 2, 4, 5, 7, 8) that contains data gathered from the BLS home page. Although finding the information in the BLS web site is fairly straightforward, the web site provides researchers with numerous options as to the type and format of the data, such as the option to choose whether or not the data is seasonally adjusted. The procedures for finding the information on software prices and tax preparation fees (Exhibits II-4 and II-5) are similar to the procedure for finding the personal computer prices, therefore the procedures in Exhibits II-4 and II-5 are condensed and reference the procedure in Exhibit II-1.

Exhibit II-1: Personal Computer Prices

Consumer Price Index-All Urban Consumers

Series Catalog:

Series ID : CUUR0000SEEE01

Not Seasonally Adjusted
Area : U.S. city average
Item : Personal computers and peripheral equipment
Base Period : DECEMBER 1997=100

Data:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
1990	No data available for this year.												
1991	No data available for this year.												
1992	No data available for this year.												
1993	No data available for this year.												
1994	No data available for this year.												
1995	No data available for this year.												
1996	No data available for this year.												
1997												100.0	
1998	96.9	91.3	88.7	86.6	82.7	80.0	75.2	71.1	68.5	67.5	65.6	64.2	78.2
1999	61.4	59.7	57.6	56.8	55.7	54.5	52.9	50.9	49.7	48.2	47.0	47.2	53.5
2000	46.4	45.1	44.2	42.7	42.4	41.2	40.3						

Procedure for Finding the Data:
First, I clicked on the "Data" link on the BLS home page. Then I clicked on "Selective Access." Next, I selected "Consumer Price Index-All Urban Consumers (Current Series)." Then I selected the following options in order: Not Seasonally Adjusted, 0000 U.S. city average, and Current Base. Then for item, I selected "SEEE01 Personal computers and peripheral equipment." Then I selected "Monthly" periodicity, range of "1990-2000," and retrieved the data.

Concerning the data that I collected on the number of tax professionals in Exhibit II-2, it is important to note that the employee data includes more than just tax professionals. The digits "729" in the selected "807290" represents the SIC industry group 729 Miscellaneous Personal Services. Please note from Appendix A-1 that Industry Group 729 encompasses employees that fall under Standard Industrial Classification groups 7291 and 7299. SIC 7291 represents Tax Return Preparation Services and SIC 7299 represents Miscellaneous Personal Services, Not Elsewhere Classified. It is important to recognize that employees classified under 7299 work in

numerous non tax-related occupations, such as dating service, massage parlors, and several other occupations. However, one can assume from Exhibit II-2, that the drastic decrease in employees from April to May is due to the release of temporary tax return preparation professionals at the end of tax busy season. By subtracting the June figures from the April figures, I could estimate the number of temporary tax return employees per year.

Exhibit II-2: Number of Tax Professionals/Temps

National Employment, Hours, and Earnings

Series Catalog:

Series ID : EEU80729001

Not Seasonally Adjusted
Industry : Miscellaneous personal services
SIC Code : 729
Data Type : ALL EMPLOYEES (in thousands)

Data:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
1990	166.7	186.5	190.4	192.6	116.1	111.8	105.4	104.8	112.9	112.8	108.3	121.5	135.8
1991	176.4	205.3	203.9	203.2	119.2	115.1	111.0	113.0	124.8	119.1	119.5	132.0	145.2
1992	197.4	214.3	211.4	208.2	133.2	123.1	114.6	113.1	122.1	117.0	114.5	130.1	149.9
1993	204.0	230.0	218.5	209.1	128.9	120.5	114.6	113.3	116.4	114.8	116.1	133.5	151.6
1994	216.1	230.0	219.3	216.3	126.6	114.6	106.9	106.6	114.7	109.0	105.1	117.4	148.6
1995	202.8	233.0	227.8	219.7	138.3	127.5	120.7	116.5	122.3	120.7	117.6	131.0	156.5
1996	213.7	240.5	229.5	224.0	147.0	129.2	121.1	120.3	127.8	126.8	125.7	134.5	161.7
1997	211.6	239.4	226.7	227.1	154.3	137.8	129.4	127.4	127.3	126.5	126.9	137.6	164.3
1998	220.4	245.7	236.2	237.5	158.4	141.6	132.5	133.2	135.6	138.2	137.6	153.2	172.5
1999	238.1	255.7	249.4	250.8	159.9	149.7	144.6	143.7	146.1	147.3	146.5	163.9	183.0
2000	262.5	282.1	267.4	270.5	172.3	162.0	155.8(p)						

	Temps (Apr minus June)	Increase in Temps	% Increase in Temps
1990	80.8		
1991	88.1	7.3	9.0%
1992	85.1	(3.0)	-3.4%
1993	88.6	3.5	4.1%
1994	101.7	13.1	14.8%
1995	92.2	(9.5)	-9.3%
1996	94.8	2.6	2.8%
1997	89.3	(5.5)	-5.8%
1998	95.9	6.6	7.4%
1999	101.1	5.2	5.4%
2000	108.5	7.4	7.3%

p: preliminary

Procedure for Finding the Data:
First, I selected "Data" on the BLS home page. Then I again clicked on "Selective Access." Next, I selected "National Employment, Hours, and Earnings." Then I selected the following options in order: Not Seasonally Adjusted, 01 ALL EMPLOYEES (in thousands), 807290 Miscellaneous personal services, 1990-2000, and Retrieve data.

B. Computer/Internet Use

The first trend, computer/Internet use, is important because more computer/Internet use means easier access to tax preparation software programs for the

general public. The New York Times 2000 Almanac is the source of information for the two charts in Exhibit II-3. Part A of the exhibit shows that as of 1999 over half of all U.S. households own at least one computer. The percentage of households with computers has increased 17 percent since 1995 and is expected to increase nearly 3 percent in the year 2000. Part B of the exhibit shows that as of 1999 nearly 28 percent of all U. S. households are on-line. The percentage of on-line households has increased nearly 19 percent since 1996 and is expected to continue increasing by another 15 percent by the year 2002. A possible explanation for the increasing trend of computers/Internet use is that the price of personal computers, when compared to 1997 year-end prices, has been declining in recent years as shown in Exhibit II-1.

Exhibit II-3: Personal Computer/Internet Households

A. Personal Computer Households (1995-2000)			
	Total US households	Households w/ Computers	
	# in millions	# in millions	Percent
1995	97.7	33.2	34.0%
1996	98.9	38.7	39.1%
1997	100.0	44.0	44.0%
1998	101.0	47.8	47.3%
1999	101.7	51.9	51.0%
2000[1]	102.4	55.1	53.8%

B. U.S. Online Households and Internet Users (1996-2002)				
	Total US households	Online Households		Total Internet Users
	# in millions	# in millions	Percent	# in millions
1996	98.9	8.5	8.6%	12.5
1997	100.0	14.5	14.5%	28.0
1998	101.0	24.4	24.2%	47.0
1999	101.7	28.0	27.5%	54.0
2000[1]	102.4	32.0	31.3%	62.0
2001[1]	103.0	35.3	34.2%	68.0
2002[1]	103.5	44.0	42.5%	85.0

1. *Estimates*

C. Software Use

The software price data in Exhibit II-4 comes from the BLS web site. As shown in the exhibit, software prices have been falling in recent years. Because tax preparation software sales make up such a significant proportion of overall software sales in the United States, the falling software prices trend implies that tax preparation software prices have been falling as well. According to the 2000 World Almanac and Book of Facts, TurboTax was the number one selling software program based on average sales for

1999. The TaxCut 1998 Deluxe Filing Edition by Block Financial was the number five selling software program behind Microsoft Windows 98 Upgrade. Numerous other tax software programs made the list. Note that the 1999 sales data was only taken from January to June 1999, therefore the data is probably more biased towards tax software due to the fact that consumers would most likely purchase the tax software in the first half of the year during tax busy season. However, the data show that tax preparation software programs make up a significant part of overall software sales, and overall declining software prices implies that the tax software has become cheaper and more affordable to consumers in general.

Exhibit II-4: Software Prices

Consumer Price Index-All Urban Consumers

Series Catalog:

Series ID : CUUR0000SEEE02

Not Seasonally Adjusted
Area : U.S. city average
Item : Computer software and accessories
Base Period : DECEMBER 1997=100

Data:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
1990	No data available for this year.												
1991	No data available for this year.												
1992	No data available for this year.												
1993	No data available for this year.												
1994	No data available for this year.												
1995	No data available for this year.												
1996	No data available for this year.												
1997												100.0	
1998	97.1	97.2	98.3	97.9	97.1	97.2	98.2	95.4	94.7	92.7	90.0	90.0	95.5
1999	88.2	88.6	89.0	87.7	87.3	87.1	89.3	89.1	88.7	89.4	88.3	88.2	88.4
2000	87.9	87.6	87.1	87.4	86.9	86.1	85.3						

Procedure for Finding the Data:
The procedure for finding this data is the same as for finding the personal computer price data in Exhibit II-1 with the exception of selecting "SEEE02 Computer software and accessories" for the item.

D. Tax Returns

The data in Exhibit II-5 imply a steadily increasing trend for tax return preparation and other accounting fees. However, without the ability to separate tax return preparation fee information from other accounting fees, the information from these data is limited in its usefulness in predicting whether consumers are willing to pay more or less for tax return preparation services.

Exhibit II-5: Tax Return Preparation and Other Accounting Fees

Consumer Price Index-All Urban Consumers

Series Catalog:

Series ID : CUUR0000SS68023

Not Seasonally Adjusted
Area : U.S. city average
Item : Tax return preparation and other accounting fees
Base Period : DECEMBER 1997=100

Data:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
1990	No data available for this year.												
1991	No data available for this year.												
1992	No data available for this year.												
1993	No data available for this year.												
1994	No data available for this year.												
1995	No data available for this year.												
1996	No data available for this year.												
1997												100.0	
1998	101.0	102.6	103.4	104.2	104.4	104.4	104.9	104.8	104.9	105.3	105.3	105.8	104.3
1999	107.2	108.1	108.3	108.5	109.2	109.2	109.6	109.6	109.7	112.0	112.2	112.2	109.7
2000	112.8	114.0	114.9	115.2	115.6	115.6	116.3						

Procedure for Finding the Data:
The procedure for finding this data is the same as for finding the personal computer price data in Exhibit II-1 with the exception of selecting "SS68023 Tax return preparation and other accounting fees" for the item.

I decided that a better way to find tax return preparation fee information was to look at H&R Block's 10-K filings through the EDGAR ONLINE web site. Exhibit II-6 shows selected information gathered from H&R Block's 1996 to 2000 10-K filings with

additional computations. The exhibit is separated into two parts: part A consists of return information and part B consists of employee information. H&R Block's financial statements do not give out return fee information, so I needed to use other information to calculate an approximate average tax return price as shown at the bottom of Part A in Exhibit II-6. First I needed to find each year's revenue due to tax return preparation. The income statements do not provide this information directly; however, the notes to the financial statements, under nature of operations, provide information as to what percent of total revenue for the year was due to "tax return preparation, electronic filing of tax returns and other tax-related services." For instance in the year ending April 30 of 2000, 62 percent of total revenue was due to tax return preparation. One problem with the total revenue figure is that it includes revenues from operations outside of the United States in countries such as Canada and Australia. Item 1, of the 10-K filings, gives information on the % of total revenue due to non-US operations. With this information, I was able to approximate revenue due to US tax returns, which was close to $1.3 billion during the 2000 tax season. To find the price per return, I needed to know the number of returns prepared. I found this information in item 1 of the 10-K. Then I was able to calculate the approximate average tax return price, which was $81.91 in 2000. I repeated the procedure for all years from 1996 to 2000. I found that H&R Block tax return prices were indeed rising each year. Because H&R Block is by far the largest player of the tax return industry, this information should be fairly representative of the industry as a whole.

Next, I decided to calculate the number of returns prepared per office. Item 1 of the 10-K also provides information on the number of H&R Block offices, which I was able to use in the calculation. Although the number of returns that H&R Block prepared

has been increasing steadily each year, the number of returns per office has not. As can be seen in Part A of Exhibit II-6, that while returns per office did increase between 1999 and 2000, the increase was 45 times less than the increase between 1998 and 1999. The 2000 increase in returns per office was also by far the lowest annual increase in the last four years. This significantly low increase in returns per office could be due to a number of factors, such as increased competition, excessive expansion, or partly due to an increase in people preparing their own tax returns on-line which is discussed later in the trends section. Given that the returns per office have not decreased and that the average tax return price has increased since 1996 implies that H&R Block customers are overall still finding the tax return service valuable.

Jackson Hewitt Inc., which since 1998 has been a unit of Cendant Corporation, also has had an increase in the number of tax returns prepared and revenue due to tax returns from the 1999 to 2000 tax season. According to a May, 2000 press release, Jackson Hewitt, the nation's second largest company in the industry behind H&R Block, prepared a record-breaking 1.7 million returns in the 2000 tax filing season, which was a 33% increase from 1999. The company also reported a revenue increase of 45% from 1999 to 2000. Jackson Hewitt has nearly 3,000 tax offices in 46 states (Cort 2000).

Exhibit II-6: H&R Block Data

	Tax Season Ended April 30					
	Part A: Return Information					
REF		1996	1997	1998	1999	2000
10-K	US Returns Prepared (in thousands)	13,360	14,302	14,838	15,761	16,276
10-K	US Offices	8,308	8,554	8,780	8,923	9,210
Calc	Returns Prepared per Office (RPO)	1,608	1,672	1,690	1,766	1,767
Calc	Increase in RPO		64	18	76	1
Calc	% Annual Increase in RPO		4.0%	1.1%	4.5%	0.1%
10-K	Total Revenue (in thousands)	1,679,601	1,097,456	1,306,785	1,644,665	2,451,943
10-K	% of Total Revenue due to non-US ops	16.4%	15.2%	13.8%	12.8%	12.3%
Calc	Approx US Revenue (in thousands)	1,404,146	930,643	1,126,449	1,434,148	2,150,354
10-K	% of TR due to tax return preparation	50.0%	90.0%	86.0%	81.0%	62.0%
Calc	US Tax Return Revenue (in thousands)	702,073	837,578	968,746	1,161,660	1,333,219
Calc	Approximate Average Tax Return Price	52.55	58.56	65.29	73.70	81.91
Calc	% Annual Increase in Tax Return Price		11.4%	11.5%	12.9%	11.1%
	Part B: Employees[1]					
REF		1996	1997	1998	1999	2000
10-K	All Full-time (FT)	1,300	1,640	2,600	4,200	10,000
10-K	All Full-time and Seasonal (FT&S)	79,000	78,900	83,500	86,500	103,000
Calc	All Seasonal (FT&S - FT)	77,700	77,260	80,900	82,300	93,000
10-K	US Offices	8,308	8,554	8,780	8,923	9,210
Calc	Seasonal employees per office	9.4	9.0	9.2	9.2	10.1
Calc	Annual Increase in Seasonal employees		(440)	3,640	1,400	10,700
Calc	% Annual Increase in Seasonal employees		-0.6%	4.7%	1.7%	13.0%
	1. Employees of direct and indirect wholly owned subsidiaries as of April 30 (Incl. Other Countries)					

E. Tax Return Professionals/Seasonal Employees

If increased use of personal tax preparation software programs was indeed reducing the need for tax return professionals, one might expect that the number of people employed as temporary tax return preparers would have decreased in recent years. However Exhibit II-2 shows that the number of temporary or seasonal tax professionals has actually increased over the past three years. Because, as mentioned earlier, the information in Exhibit II-2 includes non-tax employees, I decided to verify the reliability of the increasing trend of temporary tax return employees with H&R Block employee information. From item 1 of H&R Block's 1996-2000 10-K filings, I was able to find the number of full-time employees and the number of both full-time and seasonal employees combined. With this information, I was able to calculate the number of seasonal employees for each year as shown in Part B of Exhibit II-6. As shown in the exhibit, the number of both full-time and seasonal employees has increased over the past four years and increased significantly from 1999 to 2000. This effect could be partly due to increased expansion, so I calculated the number of seasonal employees per office, which has also increased significantly from 1999 to 2000. These increasing trends suggest an increasing need for tax return professionals. The H&R Block employee trends also further reinforce the industry trend information of Exhibit II-2. Notice in both exhibits (II-2 and II-6), the number of temporary tax return professionals actually decreases in 1997. Both exhibits also show similar up and down behavior in the percent increase in seasonal employees/temps.

F. Tax Filers/Labor Force

Exhibit II-7 contains 1999 and 2000 tax filing season data obtained from the Internal Revenue Service web site. The procedure to get to the tax filing data is listed in the exhibit. The tax filing data shows a number of changes between the 1999 and 2000 tax filing seasons. First, the total number of returns received by the IRS has increased by over 2.2 million. Next, there has been an increase of about 6.5 million returns that have been electronically filed using a computer. Of these additional computer-generated returns, tax professionals have prepared nearly 4 million or 61%. A little more than 2.5 million or 39% of the computer-generated returns were self-prepared by the taxpayers. What's more astonishing is that the percent of self-prepared computer-generated returns has more than doubled.

Exhibit II-7: IRS Filing Statistics

2000 FILING SEASON STATISTICS				
Cumulative through the weeks ending 7/2/99 and 6/30/00				
	1999	2000	Change[1]	% Change
Total Receipts	119,863,000	122,107,000	2,244,000	1.9%
Total Processed	117,317,000	120,960,000	3,643,000	3.1%
E-filing Receipts				
TOTAL	29,218,000	35,210,000	5,992,000	20.5%
TeleFile (phone)	5,661,000	5,157,000	-504,000	-8.9%
Computer	23,557,000	30,053,000	6,496,000	27.6%
Tax Professionals	21,121,000	25,072,000	3,951,000	18.7%
Self-prepared	2,436,000	4,981,000	2,545,000	104.5%
1 *Calculated data.*				

Procedure for Finding the Data:
Go to the Internal Revenue Service web site and click on the following in order: "Tax Stats," "Individuals," "Filing Season / TPUS," and "99IFSSCT.TXT." All of the information in this exhibit is taken directly from the IRS tax-filing table with the exception of the "Change" column, which the spreadsheet calculated separately.

With such a rapidly growing group of people who are preparing their own taxes on computers, why do people such as H&R spokesman Neil Getzlow, in a April 2000 Courier - Journal article, imply that professional tax preparers are not threatened by the increase in electronic filing (McGinty 2000). There are a couple of possible reasons. One reason is the annual increases of the civilian labor force. The BLS data in Exhibit II-8 shows that the US civilian labor force has been increasing at a rate of 1.2 million people per year from 1988 to 1998 and is expected to continue increasing at this rate from 1998 to 2008. The increasing civilian labor force can partly explain why the number of returns received by the IRS has been increasing as shown in Exhibit II-7. Getzlow points out another reason why tax professionals should not be threatened by electronic filing/software programs. People who have professionals prepare their returns belong to a completely different group than those people who prepare their returns themselves. This implies that the people who are likely to use computer software to prepare their taxes for the first time are the people who currently use pen and paper to file their returns not people who currently go to tax professionals.

Getzlow claims that 55% of Americans currently go to tax professionals to prepare their returns. Although, I could not find any specific data to back this claim up, if Getzlow's figure of 55% is accurate, then the number of Americans having professional prepare their tax returns has increased since 1997. According to a Rocky Mountain News article, in 1997, 49% of the 118.8 million individual tax returns received by the IRS were co-signed by professional tax preparers (Accola 1998). This percentage held fairly constant from 1990 to 1997 among all tax filers. This trend, along with the other tax

filing/labor force trends, supports the idea that the increased use of personal tax preparation software is not adversely affecting tax professionals.

Exhibit II-8: Labor Force

Labor supply and factors affecting productivity, 1978, 1988, 1998, and projected 2008

Category	*Levels*				*Avg. Annual Rate of Change*		
	1978	1988	1998	2008	1978-88	1988-98	1998-2008
Labor supply (in millions, unless noted):							
Total population.....	222.9	245.3	270.6	295.2	1.0	1.0	0.9
Population aged 16 and over.....	166.8	189.4	208.6	232.0	1.3	1.0	1.1
Civilian labor force.....	102.2	121.7	137.7	154.6	1.8	1.2	1.2
Civilian household employment.....	96.1	115.0	131.5	147.3	1.8	1.3	1.1
Nonfarm wage and salary employment	86.7	105.2	125.8	145.7	2.0	1.8	1.5
Unemployment rate (percent).....	6.1	5.5	4.5	4.7	-1.0	-2.0	0.5
Productivity:							
Nonfarm labor productivity (1992=100)	86.90	98.30	107.25	123.81	0.9	1.2	1.4

Sources: Historical data, Bureau of the Census, Bureau of Labor Statistics; projected data, Bureau of Labor Statistics

Procedure for Finding the Data:
This data comes from the "Special Purpose Files" in the "Employment Projections" section of the BLS web site. To get there, first I selected the "Keyword Search of BLS Web Pages" option on the BLS home page. Then, I searched for "historical and population." Then I selected document #27 titled "Labor supply and factors affecting productivity, historical and projected."

III. Developing the Hypotheses

A. List of Hypotheses

Presented below are all of the hypotheses that were tested in this research project.

General Hypotheses:

1. On average tax return professionals do not feel threatened that their clients will switch to using the tax software.
2. Non Big-5 tax return professionals feel significantly more threatened than Big-5 individual tax return professionals that many of their clients will switch to using the tax software.

Combined Group Hypotheses (Specific Hypotheses # 1-5):

1. On average tax professionals feel that the factors in question 1 of the survey presently limit their clients from using the tax software to prepare their returns.
2. On average tax professionals feel that the factors in question 2 of the survey will limit their clients from using the tax software to prepare their returns in the future.
3. On average tax professionals do not believe that many of their clients will switch to using the tax software in the next 10 years.
4. On average tax return professionals are willing to help the tax software developers improve the software programs.
5. An overall threat factor that averages the results of the survey together would show that on average tax professionals do not feel threatened by the software.

Group Comparison Hypotheses (Specific Hypotheses # 6-13):

6. Big-5 tax professionals are more likely to disagree that software accessibility limits their clients than will the non Big-5 professionals both now and in the future.
7. Big-5 professionals more strongly agree that the software's inability to handle complex issues would be a limiting factor both now and in the future.
8. Big-5 tax professionals more strongly agree, as compared to non Big-5 professionals, that the software's inability to provide an overall sense of security will be a limiting factor both now and in the future.
9. Big-5 professionals, as compared to non Big-5 professionals, will more strongly agree that on average factors presently exist that limit the use of the software by their clients.

10. Big-5 professionals, as compared to non Big-5 professionals, more strongly agree that factors will exist in the future that will limit the use of the software by their clients.

11. Big-5 professionals, as compared to non Big-5 professionals, more strongly disagree that many of their clients will switch to using the tax software to prepare their income tax returns within the next 10 years.

12. Big-5 professionals, as compared to non Big-5 professionals, are more willing to help the tax software developers improve the software programs.

13. An overall threat factor that averages the results of the survey together would show that on average Big-5 professionals feel less threatened by the tax preparation software.

B. General Hypotheses

The two general hypotheses were developed prior to the development of the surveys. The general hypotheses are simple, but important because they guide the survey and the eventual development of the more specific combined group hypotheses and the group comparison hypotheses. The first general hypothesis idea that tax return preparers would not feel threatened by the software comes from a 1999 Accounting Today article titled "Online Tax Prep Goes Mainstream." The article suggests that preparers shouldn't be worried about online tax preparation programs cutting into their business just yet, because the programs can not handle complicated returns and many people are uncomfortable with doing their taxes online (Fuller 1999).

The second general hypothesis idea that Big-5 professionals would feel less threatened than non Big-5 professionals comes from the Fortune article mentioned in the Introduction section. In the article, Robert Garner suggests that the tax software does not make sense for people who earn over $150,000 a year because their returns are too complex. Robert Garner's claim and the fact that he is a Ernst & Young/Big-5 tax professional suggested the possibility that Big-5 professionals would be less worried that

their individual clients would switch to using personal prep software to prepare their returns than non Big-5 professionals (Alley, Martin, and Spiers 142).

Robert Garner also made the claim that the software programs did not make sense for people who make less than $50,000 per year because their returns are so simple that it wouldn't be worth the hassle of buying the software, installing it, and using it, especially if the person was just filling out a 1040EZ. I threw this idea out because things have changed since 1994 when this article was written. As pointed out in the Trends section of this paper, software and computers are now cheaper and the percent of households that own computers has risen 17% since 1995. Also some on-line tax prep services are cheap and even free, especially for people just filling out a 1040EZ, and the number of people who have filed their returns themselves through computer-generated returns has doubled in 2000 compared to 1999. Today it is not even a prerequisite that a person own a computer or pay for online services to self-file on a computer. Nearly anyone can go to a local library, file online, and enjoy the benefit of receiving a faster refund. With these changes in mind, I decided that the figure of $50,000 is no longer a valid lower limit above which it starts making sense for people to use the software programs. Therefore, I felt comparing Big-5 versus non Big-5 professionals as two different groups made reasonable sense, which justified the idea of testing the second general hypothesis.

C. Combined Group Hypotheses

While the general hypotheses helped guide the development of the survey, the survey itself, along with the general hypotheses, helped guide the development of the more specific hypotheses, which deal with the survey questions. The first set of specific hypotheses is the combined group hypotheses, which are directly related to the first

general hypothesis. The combined group hypotheses simply suggest that if the first general hypothesis holds true, tax professionals on average should answer each survey question in a certain way that corresponds with not being threatened. The combined group hypotheses make up the first five specific hypotheses.

D. Group Comparison Hypotheses

Hypotheses 6 through 13 make up the group comparison hypotheses, which are directly related to the second general hypothesis. The group comparison hypotheses simply suggests that if the second general hypothesis holds true, then non Big-5 tax professionals will answer each survey question in a way that corresponds with being significantly more threatened than the Big-5 professionals by the software. The only hypothesis that is contrary to this line of thinking is hypothesis 6, which deals with accessibility to computers/software. I believe that Big-5 clients would have easier access to software/computers because they are probably on average wealthier people.

IV. Survey

A. Target Audience

The target audience for the survey is tax professionals who work on individual tax returns. Many of the target firms have professionals who work on returns for corporations, partnerships, and government entities. Although it is possible that many of the professionals who work on entity returns also have experience working on individual return, there exists the possibility that many of them haven't. Tax return experience for individuals is a desired trait for all professionals of the target audience.

One purpose of the survey is to contrast the results of Big-5 and non Big-5 professionals; therefore the target audience includes both types of professionals. Another purpose of the survey is to say something about tax professionals in general; therefore the target firms include a wide range of firms from small local tax offices to large national accounting firms such as the Big-5 firms. Likewise the clients of the target firms are from a wide range of income levels and return complexities.

The target audience had to be large enough to perform statistical analysis comparing the results of both Big-5 and non Big-5 professionals. Initially, the goal was to obtain at least 50 responses from each group. Assuming a 33.3% response rate, 150 surveys needed to be mailed to each group. A target audience made up only of Columbus professionals may not allow a large enough Big-5 sample for statistical purposes, therefore the survey target audience includes Cincinnati and Cleveland, in addition to Columbus. The expanded target audience also prevents the sample results from being regionally biased.

B. Developing the Survey

Many things were taken into consideration when developing the survey including the general hypotheses, possible factors that might limit each target group, technological change, ease of statistical testing, simplicity, response rate, and discretion. Because both general hypotheses deal with threat, the survey questions have to address threat of the software. The questions must address threat with enough discretion to avoid offending any one. The word "threat" does not appear anywhere through out the surveys, however the questions are designed to infer threat. For instance, one could infer that respondent 130 (see exhibit IV-1) is fairly threatened. Respondent 130 disagrees that the tax software has or will have any limitations and agrees that many of his or her clients will switch to using a tax software program to prepare their returns in the next 10 years.

Because the second general hypothesis deals with both Big-5 and non Big-5 professionals, the survey questions have to address limitations that affect both groups. The survey addresses five limitations, which appear in both questions 1 and 2 (see exhibit IV-1). Although access to a computer may not in itself be a good measure of threat, a client of either the Big-5 or non Big-5 group could not use the software without it. If a tax professional knows that none of his or her clients have access to a computer or the software program, then one could assume that the tax professional should not feel very threatened that the clients will switch to using the software any time soon to prepare the returns.

Exhibit IV-1: Respondent 130's Completed Survey

130

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COLLEGE OF BUSINESS
THE OHIO STATE UNIVERSITY

DEPARTMENT OF ACCOUNTING AND MANAGEMENT INFORMATION SYSTEMS

1. For each of the following factors, please circle to what extent you agree or disagree that the factor presently limits a personal tax preparation software program, such as TurboTax or TaxCut, from serving as the tax return preparer of choice for the majority of your clients:
   1) Access to a computer.
   Strongly Agree Agree Neutral Disagree (Strongly Disagree)
   2) Access to the software program/Internet.
   Strongly Agree Agree Neutral (Disagree) Strongly Disagree
   3) Inability of the software program to handle complex issues/new tax laws.
   Strongly Agree Agree Neutral (Disagree) Strongly Disagree
   4) Inability of the software program to provide customers with an overall sense of security.
   Strongly Agree Agree Neutral (Disagree) Strongly Disagree
   5) User friendliness (or lack thereof) of the tax software program.
   Strongly Agree Agree Neutral Disagree (Strongly Disagree)

2. For each of the following factors, please circle to what extent you agree or disagree that the factor will limit a personal tax preparation software program, such as TurboTax or TaxCut, from serving as the tax return preparer of choice for the majority of your clients ten years from now:
   1) Access to a computer.
   Strongly Agree Agree Neutral Disagree (Strongly Disagree)
   2) Access to the software program/Internet.
   Strongly Agree Agree Neutral Disagree (Strongly Disagree)
   3) Inability of the software program to handle complex issues/new tax laws.
   Strongly Agree Agree Neutral (Disagree) Strongly Disagree
   4) Inability of the software program to provide customers with an overall sense of security.
   Strongly Agree Agree Neutral (Disagree) Strongly Disagree
   5) User friendliness (or lack thereof) of the tax software program.
   Strongly Agree Agree Neutral Disagree (Strongly Disagree)

3. Please circle to what extent you agree or disagree with the following statement: Many of your present clients will switch to using a personal tax preparation software program, such as TurboTax or TaxCut, to prepare their income tax returns within the next 10 years.
   Strongly Agree (Agree) Neutral Disagree Strongly Disagree

4. Please circle to what extent you agree or disagree with the following statement: If you knew information that would be helpful in improving personal tax preparation software programs, you would be willing to share that information with the software designers.
   Strongly Agree (Agree) Neutral Disagree Strongly Disagree

Thank you for completing this student research project questionnaire.

400 FISHER HALL • 2100 NEIL AVENUE • COLUMBUS, OH 43210-1144
TELEPHONE: 614 292 9368 • FAX: 614 292 2118 • http://www.cob.ohio-state.edu

Exhibit IV-2: Respondent 25's Completed Survey

25

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COLLEGE OF BUSINESS
THE OHIO STATE UNIVERSITY

DEPARTMENT OF ACCOUNTING AND MANAGEMENT INFORMATION SYSTEMS

1. For each of the following factors, please circle to what extent you agree or disagree that the factor presently limits a personal tax preparation software program, such as TurboTax or TaxCut, from serving as the tax return preparer of choice for the majority of your clients:
   1) Access to a computer.
   (Strongly Agree) Agree Neutral Disagree Strongly Disagree
   2) Access to the software program/Internet.
   (Strongly Agree) Agree Neutral Disagree Strongly Disagree
   3) Inability of the software program to handle complex issues/new tax laws.
   Strongly Agree Agree (Neutral) Disagree Strongly Disagree
   4) Inability of the software program to provide customers with an overall sense of security.
   Strongly Agree (Agree) Neutral Disagree Strongly Disagree
   5) User friendliness (or lack thereof) of the tax software program.
   Strongly Agree (Agree) Neutral Disagree Strongly Disagree

2. For each of the following factors, please circle to what extent you agree or disagree that the factor will limit a personal tax preparation software program, such as TurboTax or TaxCut, from serving as the tax return preparer of choice for the majority of your clients ten years from now:
   1) Access to a computer.
   (Strongly Agree) Agree Neutral Disagree Strongly Disagree
   2) Access to the software program/Internet.
   (Strongly Agree) Agree Neutral Disagree Strongly Disagree
   3) Inability of the software program to handle complex issues/new tax laws.
   Strongly Agree Agree (Neutral) Disagree Strongly Disagree
   4) Inability of the software program to provide customers with an overall sense of security.
   Strongly Agree (Agree) Neutral Disagree Strongly Disagree
   5) User friendliness (or lack thereof) of the tax software program.
   Strongly Agree (Agree) Neutral Disagree Strongly Disagree

3. Please circle to what extent you agree or disagree with the following statement: Many of your present clients will switch to using a personal tax preparation software program, such as TurboTax or TaxCut, to prepare their income tax returns within the next 10 years.
   Strongly Agree Agree Neutral Disagree (Strongly Disagree)

4. Please circle to what extent you agree or disagree with the following statement: If you knew information that would be helpful in improving personal tax preparation software programs, you would be willing to share that information with the software designers.
   (Strongly Agree) Agree Neutral Disagree Strongly Disagree

Thank you for completing this student research project survey.

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Another factor that figured into the development of the survey is technological change. The survey takes technological change into account in question 2. Question 2 is almost identical to question 1, except that it deals with whether or not the factors will limit their clients' use of the software program in the future. Some professionals might not think that present technology effectively allows their clients to use the software, however they might feel that software technology is progressing in such a way that their clients may be able to effectively use the software to file their returns in the future. Question 2 uses 10 years to represent the future, because a person might be more able to feasibly grasp what technological changes may or may not take place in ten years versus a longer period of time such as twenty years. On the other hand, ten years is a sufficiently long period of time for major technological change to take place. Ten years is also not too long of a period of time to be considered a threat by many people; in many cases it is possible that a person could still be in the profession in ten years and not have retired yet.

The survey uses all multiple-choice questions for simplicity, ease of response, and ease of statistical analysis. With all multiple-choice questions, respondents know that the survey should be fairly easy to fill out and take a relatively short amount of time. As long as the respondents take the time to read and understand the questions, each could easily fill out this survey accurately in less than five minutes. Also, it is easy to assign numbers for analysis with multiple-choice answers. Assigning numbers such as a "1" to represent "strongly agree," allows the results to be analyzed rapidly using spreadsheets and comparative statistical analysis. Once the general formulas are developed, it takes only a matter of seconds to find out that one respondent answered inconsistently and more than likely didn't understand the question.

Response rate was also a key consideration in developing the survey. If the survey was time-consuming, hard to understand, offensive, or did not allow for anonymity, someone may not have responded for one or more of these reasons. Along with the multiple-choice questions, keeping the survey to less than one page prevented the survey from being too time-consuming. Many professors advised me to keep the survey under the one-page limit. Even going one question over one page may just give the impression that the survey is time-consuming or the person may not even bother looking on the second page before throwing the "2-page" survey in the trash.

Anonymity was made possible by a technique that one of my professors taught me. An easy way for a person to maintain anonymity is to change one thing on the survey that allows you to discriminate between two or more groups of respondents. Notice how respondent 130's survey in exhibit IV-1 is almost identical to respondent 25's survey in exhibit IV-2. The only difference is that respondent 25's survey has "Thank you for completing this student research project survey," which is different than respondent 130's thank-you sentence in that it contains the word "survey" versus "questionnaire." Respondent 25 is a Big-5 tax professional and respondent 130 is a non Big-5 tax professional. All of the surveys sent to Big-5 firms had "survey" versus "questionnaire" in the thank-you sentence. This allowed for separating the returned surveys into 2 groups for comparisons, while leaving individual firm/offices anonymous. This leaves individual participants free from repercussions because of their survey answers and hopefully gives each participant a feeling of security, so they can answer more honestly.

C. Increasing the Survey Response

Consideration for increasing the survey response rate not only changed how the survey was developed but also how information was obtained from the various firms, the survey was mailed, the cover letter was developed, and how thank-you letters were sent out. A lot of precautions were taken because various professors and statisticians had warned me that survey response rates are often a lot less than researchers expect. These people also gave me good advice on how to increase my response rate. One way to increase survey response rates in a mail-in survey like mine is to obtain a contact within each establishment who agrees to pass out the surveys to qualified respondents. The contact can also give you a good idea of approximately how many qualified respondents work at the organization and how many surveys to send. This information can save researchers time and money by not sending too many unnecessary surveys to one organization; it can also increase the survey response rate.

An important thing to remember is that the contacts are busy people and a researcher should ensure them that they will not have to work too hard as a contact. One way to do this is to send all of the surveys directly to the contact in a large envelope with the surveys. Each survey should have a self-addressed, pre-stamped return envelope attached. Having separate return envelopes means the point of contact does not have to wait for each person to fill out the survey and then collect each one individually before mailing. After knowing this, an organization professional may readily agree to be a reliable point of contact. Having each return-envelope pre-stamped and self-addressed saves the respondents that much more time and money. All they have to do is complete the survey, seal the envelope, and mail it.

Another thing that may increase the survey response rate is thanking each organization and individual respondent, if possible, one or two weeks after sending out the surveys. In my case, I didn't know who had or had not participated so far, but I thanked everybody. Also, if you can throw in a little something valuable to the respondents but free to yourself, you might further increase your response rate. The participants in my survey all work in Ohio, therefor there is a good chance that many of them are Ohio State Buckeye fans. I found out that my university's Sports Information office was giving out free official 2000-2001 Ohio State football schedules. A week before the schedules were released, I asked some of the SI office staff if I could have a couple hundred of them for my research survey and they said I could. I sent each office/contact a thank-you card with enough football schedules enclosed to give to all of the survey participants. I asked each contact to please give a football schedule to each survey participant and to keep at least one for himself or herself. This potentially did two things (assuming the office personnel were not Michigan fans). One, it may have created good relationships with the contacts/office personnel for future Ohio State student surveys, and two it may have made some of the professionals who were sitting on their surveys feel guilty enough to fill theirs out.

D. Selecting the Firms

The Accounting Department at my college gave me a copy of a mailing list of accounting firms and companies that attended a business-recruiting event in 1999. This list included the addresses, phone numbers, and firm representatives of several accounting firms in the state of Ohio. The list gave me a good start in coming up with a contact list for my research project. The list included both Big-5 and non Big-5 accounting firms. I

entered the data for several of the Big-5 and non Big-5 firms on the list into my own database. My Big-5 target audience includes Big-5 offices in all 3 cities: Columbus, Cincinnati, and Cleveland. About half of the fifteen (five in each city) Big-5 offices were not included in the list the accounting department gave me; therefore I looked up this information on the Internet in the Ameritech Yellow Pages.

The target audience of the survey also includes professionals from non-accounting firm tax service offices, such as H & R Block, Jackson Hewitt, and other local offices. The tax service office selection included randomly selecting H & R Block, Jackson Hewitt, and other local offices in all three target cities. In an attempt to maintain a somewhat random sample, I selected the first offices listed under each Ameritech Yellow Page search. For example, after I queried "Cleveland" and "H & R Block," I selected the first two H&R Block entries that appeared on the screen. Exhibit IV-3 a list of the selected offices in the Columbus, Cleveland, and Cincinnati areas. For the purpose of anonymity, the office point of contacts, addresses, and phone numbers are not listed in the exhibit. The list includes fifteen Big-5 offices, eight non Big-5 accounting firms, and seventeen tax service offices. Note that nearly half of the selected offices are from the Columbus area. The list contains more Columbus area offices for the purpose of minimizing long distance telephone costs.

Exhibit IV-3: Original Firm Selection List

Company	Type	City	State	Zip Code
Arthur Andersen LLP	Big 5	Columbus	OH	43215
Deloitte & Touche LLP	Big 5	Columbus	OH	43215
Rea & Associates Inc	firm	Dublin	OH	43017
Crowe Chizek & Company	firm	Columbus	OH	43215
Greene & Wallace Inc	firm	Columbus	OH	43215
PricewaterhouseCoopers LLP	Big 5	Columbus	OH	43215
KPMG LLP	Big 5	Columbus	OH	43215
Schneider Downs & Co Inc	firm	Columbus	OH	43215
Meaden & Moore CPA's Ltd	firm	Cleveland	OH	44114
Grant Thornton	firm	Cincinnati	OH	45202
Grant Thornton	firm	Cleveland	OH	44114
Ernst & Young LLP	Big 5	Columbus	OH	43215-3400
Groner Boyle & Quillin	firm	Columbus	OH	43215-7619
KPMG LLP	Big 5	Cincinnati	OH	45202
KPMG LLP	Big 5	Cleveland	OH	44114-3495
Deloitte & Touche LLP	Big 5	Cleveland	OH	44114-1303
Deloitte & Touche LLP	Big 5	Cincinnati	OH	45201-5340
Arthur Andersen LLP	Big 5	Cincinnati	OH	45202
Arthur Andersen LLP	Big 5	Cleveland	OH	44114
Ernst & Young LLP	Big 5	Cincinnati	OH	45202
Ernst & Young LLP	Big 5	Cleveland	OH	44115
PricewaterhouseCoopers LLP	Big 5	Cincinnati	OH	45202
PricewaterhouseCoopers LLP	Big 5	Cleveland	OH	44114
H & R Block Incorporated	Office	Columbus	OH	43229
H & R Block Incorporated	Office	Columbus	OH	43212
H & R Block Incorporated	Office	Columbus	OH	43204
Jackson Hewitt	Office	Columbus	OH	43204
Jackson Hewitt	Office	Columbus	OH	43214
Jackson Hewitt Tax Service	Office	Columbus	OH	43224
Liberty Tax Service	Office	Columbus	OH	43213
Tax Plus	Office	Columbus	OH	43232
Federal Income Tax Svc	Office	Columbus	OH	43213
H & R Block Inc	Office	Cleveland	OH	44105
H & R Block Inc	Office	Cleveland	OH	44102
Jackson Hewitt	Office	Cleveland	OH	44127
800 Tax Refund	Office	Cleveland	OH	44103
H & R Block Inc	Office	Cincinnati	OH	45230
H & R Block Inc	Office	Cincinnati	OH	45238
Jackson Hewitt	Office	Cincinnati	OH	45238
Jackson Hewitt	Office	Cincinnati	OH	45237

E. Contacting the Firms

Near the beginning of April, I contacted each of the offices and asked for a company representative. For the accounting firms, I normally asked for a human

resources staff/recruiter, and for the tax service offices I normally asked for the office manager. Most of the people I talked to agreed to be points of contact for the survey. Having a human resource person as a point of contact was particularly helpful, because he or she knew nearly all of the tax professionals and had an idea of how many might be willing to participate in the survey.

Although calling each office was time-consuming and often required multiple phone calls, the information I gained was invaluable in performing an effective survey. Each point of contact gave me an idea of how many surveys I should send and gave me an idea of whether or not his or her office would be able to participate in the survey at all. Exhibit IV-4 is a condensed version of my final survey contact list with the names, phones, and addresses excluded. There are thirty-five offices versus the original forty listed under the contact list. Although some offices did say they wouldn't be able to participate, the lower number of contact offices is deceiving. Some of the H & R Block and Jackson Hewitt office managers, such as those in Columbus, referred me to the district manager. The district manager was often willing to take several surveys and distribute them to more than one office; therefore I simply eliminated the other offices from the list. One office in Cincinnati took no surveys, because the office is seasonal and had shut down before I mailed out the surveys. I ensured each point-of-contact that I would not mail out the surveys before the tax deadline (April 17), when tax professionals would be too busy to fill out surveys. Many of the point-of-contacts commented that this was a wise decision.

Exhibit IV-4: Survey Contact List

Company	Type	No.	City	State	Zip Code
Arthur Andersen LLP	Big 5	18	Columbus	OH	43215
Deloitte & Touche LLP	Big 5	25	Columbus	OH	43215
Rea & Associates Inc	firm	6	Dublin	OH	43017
Crowe Chizek & Company	firm	10	Columbus	OH	43215
Greene & Wallace Inc	firm	10	Columbus	OH	43215
PricewaterhouseCoopers LLP	Big 5	1	Columbus	OH	43215
KPMG LLP	Big 5	6	Columbus	OH	43215
Schneider Downs & Co Inc	firm	2	Columbus	OH	43215
Meaden & Moore CPA's Ltd	firm	2	Cleveland	OH	44114
Grant Thornton	firm	30	Cincinnati	OH	45202
Grant Thornton	firm	6	Cleveland	OH	44114
Ernst & Young LLP	Big 5	5	Columbus	OH	43215-3400
Groner Boyle & Quillin	firm	10	Columbus	OH	43215-7619
KPMG LLP	Big 5	5	Cincinnati	OH	45202
KPMG LLP	Big 5	5	Cleveland	OH	44114-3495
Deloitte & Touche LLP	Big 5	5	Cleveland	OH	44114-1303
Deloitte & Touche LLP	Big 5	5	Cincinnati	OH	45201-5340
Arthur Andersen LLP	Big 5	5	Cincinnati	OH	45202
Arthur Andersen LLP	Big 5	5	Cleveland	OH	44114
Ernst & Young LLP	Big 5	5	Cincinnati	OH	45202
Ernst & Young LLP	Big 5	5	Cleveland	OH	44115
PricewaterhouseCoopers LLP	Big 5	5	Cincinnati	OH	45202
PricewaterhouseCoopers LLP	Big 5	4	Cleveland	OH	44114
H & R Block Incorporated	Office	5	Columbus	OH	43229
H & R Block Incorporated	Office	20	Columbus	OH	43228
Jackson Hewitt	Office	15	Columbus	OH	43214
Liberty Tax Service	Office	1	Columbus	OH	43213
Tax Plus	Office	1	Columbus	OH	43232
Federal Income Tax Svc	Office	1	Columbus	OH	43213
H & R Block Inc	**Office**	**8**	**Cleveland**	**OH**	**44105**
H & R Block Inc	Office	5	Brook Park	OH	44142
Jackson Hewitt	**Office**	**1**	**Cleveland**	**OH**	**44127**
800 Tax Refund	Office	2	Cleveland	OH	44103
H & R Block Inc	Office	6	Cincinnati	OH	45251
Jackson Hewitt	Office	10	Cincinnati	OH	45237

The total number of surveys that the contacts said their offices would take was 255. As one can see from the contact list, the number of surveys each firm agreed to take varied from one to thirty. It's easy to see just how valuable contacting the firms prior to mailing the surveys was in this case. Had I forgone contacting the firms and simply mailed out a set number of surveys, such as ten, to each firm, I would have sent out too

many to some firms and not enough to others. Contacting the firms made the survey response both more efficient and effective therefore allowing me to save on printing costs while increasing the response rate.

F. Printing and Mailing the Surveys

The surveys, as seen in exhibits IV-1 and IV-2, were printed on official letterhead from my school's accounting department. My advisor advised me to use the letterhead; so potential participants would have little doubt that the survey is a legitimate survey sponsored by the university. I needed a total of 255 surveys to mail, 104 of which would go to Big-5 firms and 151 to non Big-5 firms. Kinko's copy center printed off the amount of surveys needed using the appropriate document (survey = Big-5, questionnaire = non Big-5) to copy from. I had them print off some extra copies of both types.

I bought 500 business envelopes in bulk at Staples office supply and attached stamps and address labels to 255 of them. The address labels were addressed to my advisor at his university office. I used paper clips to attach each return envelope to each survey. I also purchased and sharpened 255 university pencils to send with the surveys. I typed off 35 university address labels with the name and address of each contact, which I attached to 35 postage paid priority mail envelopes for the different offices. I filled each priority mail envelope with the appropriate amount of surveys, pencils, and return envelopes.

I also enclosed a cover letter addressed to each point-of-contact, which explained the requirements of my survey. An example of a pre-merged survey cover letter is shown in Exhibit IV-5. The cover letter is a mail-merge document that uses the survey contact

list as its source. Microsoft Word's mail-merge feature allowed me to personalize each cover letter while mass printing all thirty-five letters.

The cover letter was the final item needed to complete each survey package. The surveys were mailed out on April 22, which was the Saturday after the tax deadline on Monday, April 17, 2000. A week later, I sent out Thank-You cards with 2000-2001 Ohio State football schedules for all the participants. Exhibit IV-6 is an example of a Thank-You card and football schedule, like those mailed to the participants.

Exhibit IV-5: Survey Cover Letter

OSU—Accounting Research Project

April 21, 2000

«Title» «FirstName» «LastName»
«Company»
«Address1»
«Address2»
«City», «State» «Zip_Code»

Dear «Title» «LastName»,

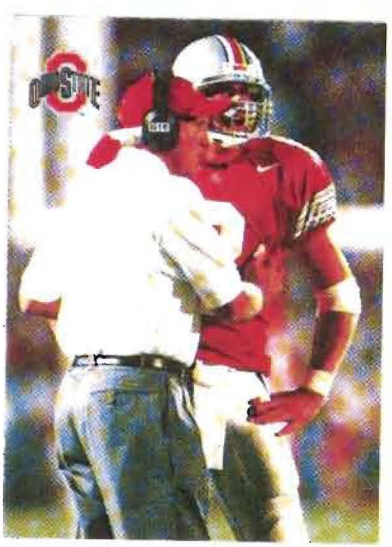
Thank you for being a point of contact for this survey. The purpose of my research project is to assess how the development of personal tax preparation software is impacting the tax profession. The purpose of this survey is to gather statistical data on the issue from various tax professionals from various offices from over fifteen different firms and corporations in the Cincinnati, Columbus, and Cleveland areas. Because I plan on working in the tax profession myself, I am interested in what I will learn through this research.

I have enclosed «No» surveys and self-addressed stamped return envelopes. Also enclosed are «No» pencils for competing the surveys, which the participants are more than welcome to keep. Please distribute these surveys to tax professionals who prepare income tax returns for individuals. The surveys are brief and should take no more than five minutes to complete. Each person can complete and return the survey at his or her leisure. For the purposes of this project, it is not necessary to disclose individual or company names on the survey or the return envelope. The pre-stamped return envelopes are addressed to my advisor, Professor Krasniewski. Thank you for participating in my research project.

Sincerely,

Chad E. Martz
Student

Exhibit IV-6: Thank You Card and Football Schedule Example



(FRONT)

(BACK)

G. Collecting the Surveys

Each week either my advisor or a college office staff would call and inform me of surveys that needed to be picked up. Over eighty surveys arrived within the first week

after the surveys were mailed. Another fifty arrived the next week and so on until by June 8, 2000, a total of 173 surveys had arrived. During the first week after the surveys were mailed, two office survey packages were returned. The packages were returned because they had wrong addresses and there were no forwarding addresses at the post office. I double-checked most of the addresses but obviously must have missed these two wrong addresses. The offices, the two packages were sent to, are highlighted in Exhibit IV-4. This meant that a total of 9 non Big-5 surveys were returned and never received by tax professionals. I didn't count these in the response rate, which lowered my surveys sent amount from 255 to 246. As of June 8, 2000, my overall survey response rate was 72%.

V. Analyzing Data/Testing

A. Group Data Entry

Prior to June 8, 2000, I had received 173 surveys. I separated them into Big-5 responses (Survey = Big-5) and non Big-5 responses (Questionnaire = non Big-5). I found that I had received 81 Big-5 surveys and 92 non Big-5 surveys for group response rates of 71.9% (81/104) and 64.8% (92/142) respectively. Next, I took the two groups of surveys and began recording the results manually in two separate data entry sheets (see Exhibits V-1 and V-2). Then I devised two spreadsheets to record the results and to calculate weighted-averages for each of the questions to be used in comparisons (see Exhibits V-3 and V-4).

Prior to opening and analyzing the surveys, I decided to combine the survey results of "access to a computer" (question 1-1 or 2-1) and "access to the software program/Internet" (question 1-2 or 2-2) into one factor "access to the software program." This is why the group analysis sheets average questions 1-1 and 1-2 into a combined number. The reason for doing this is that both of the factors relate to the same thing: access to the software program. For instance, a person who does not have access to a computer would therefore not have access to the software program. Likewise, a person who has access to the Internet would have access both to a computer and to the software program via the Internet.

Exhibit V-1: Big-5 Group Data Entry

Exhibit V-2: Non Big-5 Group Data Entry

Exhibit V-2: Non Big-5 Group Data Entry

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1-1					
1-2					
1-3					
1-4					
1-5					
2-1					
2-2					
2-3					
2-4					
2-5					
3					
4					

Exhibit V-3: Original Big-5 Results Spreadsheet

Assigned Values:	1	2	3	4	5		Weighted
Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.	Total	Average
1-1	9	7	7	31	27	81.0	3.74
1-2	5	13	12	31	20	81.0	3.59
Comb. 1-1&1-2	7.0	10.0	9.5	31.0	23.5	81.0	3.67
Rounded 1-1&1-2	7.0	10.0	10.0	31.0	23.0	81.0	
1-3	20	33	7	15	6	81.0	2.43
1-4	22	33	11	9	6	81.0	2.31
1-5	7	25	26	16	7	81.0	2.89
Avg. Ques 1	14.0	25.3	13.4	17.8	10.6	81.0	2.82
Rounded Avg. 1	14.0	25.0	13.0	18.0	11.0	81.0	
2-1	5	4	3	22	47	81.0	4.26
2-2	5	4	5	28	39	81.0	4.14
Comb. 2-1/2-2	5.0	4.0	4.0	25.0	43.0	81.0	4.20
Rounded 2-1&2-2	5.0	4.0	4.0	25.0	43.0	81.0	
2-3	13	29	17	16	6	81.0	2.67
2-4	15	29	20	13	4	81.0	2.53
2-5	5	15	26	23	12	81.0	3.27
Avg. Ques 2	9.5	19.3	16.8	19.3	16.3	81.0	3.17
Rounded Avg. 2	10.0	19.0	17.0	19.0	16.0	81.0	
	Strongly Dis.	Disagree	Neutral	Agree	Strongly Agree		
3	22	47	5	4	3	81.0	2.00
	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.		
4	13	47	14	6	1	81.0	2.20
Avg. Ques 1-4	14.6	34.6	12.3	11.8	7.7	81.0	2.55
Rounded Avg. 1-4	15.0	34.0	12.0	12.0	8.0	81.0	
Avg. Ques 1-3	15.2	30.5	11.7	13.7	10.0	81.0	2.66
Rounded Avg. 1-3	15.0	30.0	12.0	14.0	10.0	81.0	
Big-5 Survey Responses:		81					
Surveys Sent to Big-5:		104					
Big-5 Response Rate:		77.9%					

Exhibit V-4: Original Non Big-5 Results Spreadsheet

Assigned Values:	1	2	3	4	5		Weighted
Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.	Total	Average
1-1	22	29	11	15	15	92.0	2.70
1-2	22	23	11	28	8	92.0	2.75
Comb. 1-1/1-2	22.0	26.0	11.0	21.5	11.5	92.0	2.72
Rounded 1-1&1-2	22.0	26.0	11.0	22.0	11.0	92.0	
1-3	33	30	14	13	2	92.0	2.14
1-4	15	41	20	14	2	92.0	2.42
1-5	18	28	**29**	**15**	2	92.0	2.51
Avg. Ques 1	22.0	31.3	18.5	15.9	4.4	92.0	2.45
Rounded Avg. 1	22.0	31.0	19.0	16.0	5.0	93.0	
2-1	16	13	10	24	29	92.0	3.40
2-2	11	19	9	28	25	92.0	3.40
Comb. 2-1/2-2	13.5	16.0	9.5	26.0	27.0	92.0	3.40
Rounded 2-1&2-2	14.0	16.0	9.0	26.0	27.0	92.0	
2-3	21	**32**	**19**	15	5	92.0	2.47
2-4	21	39	19	10	3	92.0	2.29
2-5	13	**26**	**29**	20	4	92.0	2.74
Avg. Ques 2	17.1	28.3	19.1	17.8	9.8	92.0	2.73
Rounded Avg. 2	17.0	28.0	19.0	18.0	10.0	92.0	
	Strongly Dis.	Disagree	Neutral	Agree	Strongly Agree		
3	11	35	11	27	8	92.0	2.85
	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.		
4	21	39	26	3	3	92.0	2.22
Avg. Ques 1-4	17.8	33.4	18.7	15.9	6.3	92.0	2.56
Rounded Avg. 1-4	18.0	33.0	19.0	16.0	6.0	92.0	
Avg. Ques 1-3	16.7	31.5	16.2	20.2	7.4	92.0	2.67
Rounded Avg. 1-3	17.0	32.0	16.0	20.0	7.0	92.0	
Non Big-5 Survey Responses:		92					
Surveys Sent to Non Big-5:		142					
Non Big-5 Response Rate:		64.8%					

Notice how respondent 130 answered the survey questions in Exhibit IV-1. This non Big-5 professional for the most part disagrees that any of the factors will limit his or her client from using tax software both now and in the future. Respondent 130's answer to question 3 is consistent with this line of thinking. The respondent agrees that many of

his or her clients will switch to using a software program within the next 10 years. One can assume that respondent 130 is rather threatened by the fact that many of his or her clients will probably switch to using the software. In questions 1 and 2 disagreeing relates to being threatened, where in question 3 agreeing relates to being threatened. In order to assign a numerical value to measure the level of threat for question 3 that is consistent with questions 1 and 2, an opposite value must be assigned to the same answers in question 3. For instance, if "Strongly Agree" were to be assigned the value "1" in questions 1 and 2, then the "Strongly Agree" choice in question 3 should be assigned the value "5" to measure a higher degree of relative threat. This method of assigning opposite values to the same question 3 choices is exactly what I did in the group data spreadsheets in Exhibits V-3 and V-4. Notice how a "1" relates to the "Strongly Agree" choice in question 1 but to the "Strongly Disagree" choice in question 3; this is necessary in obtaining sensible answers when averaging all the questions.

Notice how respondent 130 answers question 4 as "Agree"; that is, the respondent agrees that he or she would help the tax software developers improve the software, if that person discovered useful information. This may seem a little backwards to what one might expect. One would think that if a person faces the threat of losing clients to the software, the person would be unwilling to divulge information that might enhance the software's abilities. My advisor and I discussed several possibilities of why this respondent and several others responded this way. One possible reason is that the person might think that there is some kind of financial gain or other benefit, such as job prospects, by helping the software company. Maybe the software company would pay the person for the useful information, or the software company might offer the person a job as

a consultant. Another possibility is that the person wants to help the software developers, because the useful information would not improve the software so much as to make that much of a difference; many of the professional's clients may not want to use the software regardless of how good it is. Another possibility is that the professional is concerned with helping the community no matter what the personal cost. There are several possibilities but whatever the reasons, we have decided that answers to question 4 may not be that good a measure of threat. That is why in both spreadsheets (Exhibits V-3 and V-4), an overall average for questions 1 through 3 has been calculated as well as an average for questions 1 through 4.

B. Individual Data Entry

At the suggestion of a statistical consultant at the university, I have since reentered the survey data on an individual basis. This individual data entry can be seen in the individual data entry spreadsheet of Appendix A-2. Notice how each respondent's answers have been entered separately into a row. This type of data entry may have been time consuming but has also provided a lot of useful information that under the grouped-together type data entry method remained hidden. For instance, one can easily perform statistical analyses to determine whether or not a person is answering inconsistently or if a subgroup of people is answering relatively the same way. Unfortunately, with the allowance of anonymity in the surveys, we cannot determine whether a group of people from the same firm answered the same way. This is one of the types of information that has been sacrificed by anonymity. However, the individual recording of data has still proven useful.

In order to record individual results, I assigned each survey a number (1-173). As can be seen in Appendix A-2 if the individual is assigned a "1" if he or she is from a Big-5 firm and a "2" if not. This allows for keeping track of who is in which group, which will prove useful in statistical analysis later. Each person's individual answers for each question are recorded across in a row. The results for each group are then summarized in the Result Summary section of the spreadsheet. This summary of data allows for a good check of the accuracy of the results in the group result spreadsheets (Exhibits V-3 and V-4). The final group results on the individual group data sheet ended up to be more accurate, mainly because it was easier to find data entry errors. I found some errors in the entries I had previously made in the group data entry sheets.

Notice that the individual data entry spreadsheet has 85 Big-5 respondents versus 81. This is because the additional 4 Big-5 responses were added to the individual spreadsheets when they came in on June 8, 2000. These additional responses became responses 174-177. The spreadsheet formulas were updated to include these data in the Result Summary section of the spreadsheet. The group result spreadsheets were then updated as shown in Exhibits V-5 and V-6.

Exhibit V-5: Revised Big-5 Results Spreadsheet with No Exclusions

Assigned Values:	1	2	3	4	5		Weighted
Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.	Total	Average
1-1	10	7	7	32	29	85.0	3.74
1-2	7	12	12	33	21	85.0	3.58
Comb. 1-1&1-2	8.5	9.5	9.5	32.5	25.0	85.0	3.66
Rounded 1-1&1-2	9.0	9.0	9.0	33.0	25.0	85.0	
1-3	23	34	7	14	7	85.0	2.39
1-4	24	33	11	9	8	85.0	2.34
1-5	8	27	27	16	7	85.0	2.85
Avg. Ques 1	15.9	25.9	13.6	17.9	11.8	85.0	2.81
Rounded Avg. 1	16.0	26.0	13.0	18.0	12.0	85.0	
2-1	6	4	3	22	50	85.0	4.25
2-2	6	4	5	29	41	85.0	4.12
Comb. 2-1/2-2	6.0	4.0	4.0	25.5	45.5	85.0	4.18
Rounded 2-1&2-2	6.0	4.0	4.0	25.0	46.0	85.0	
2-3	15	30	17	16	7	85.0	2.65
2-4	18	29	20	13	5	85.0	2.51
2-5	6	16	26	25	12	85.0	3.25
Avg. Ques 2	11.3	19.8	16.8	19.9	17.4	85.0	3.15
Rounded Avg. 2	11.0	20.0	17.0	20.0	17.0	85.0	
	Strongly Dis.	Disagree	Neutral	Agree	Strongly Agree		
3	22	48	5	6	4	85.0	2.08
	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.		
4	15	47	16	6	1	85.0	2.19
Avg. Ques 1-4	16.0	35.2	12.8	12.4	8.5	85.0	2.56
Rounded Avg. 1-4	16.0	35.0	13.0	12.0	9.0	85.0	
Avg. Ques 1-3	16.4	31.2	11.8	14.6	11.0	85.0	2.68
Rounded Avg. 1-3	16.0	31.0	12.0	15.0	11.0	85.0	
Big-5 Survey Responses:		85					
Surveys Sent to Big-5:		104					
Big-5 Response Rate:		81.7%					

Exhibit V-6: Revised Non Big-5 Results Spreadsheet with No Exclusions

Assigned Values:	1	2	3	4	5		Weighted
Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.	Total	Average
1-1	22	29	11	15	15	92.0	2.70
1-2	22	23	11	28	8	92.0	2.75
Comb. 1-1/1-2	22.0	26.0	11.0	21.5	11.5	92.0	2.72
Rounded 1-1&1-2	22.0	26.0	11.0	22.0	11.0	92.0	
1-3	33	30	14	13	2	92.0	2.14
1-4	15	41	20	14	2	92.0	2.42
1-5	18	28	28	16	2	92.0	2.52
Avg. Ques 1	22.0	31.3	18.3	16.1	4.4	92.0	2.45
Rounded Avg. 1	22.0	31.0	18.0	16.0	5.0	92.0	
2-1	16	13	10	24	29	92.0	3.40
2-2	11	19	9	28	25	92.0	3.40
Comb. 2-1/2-2	13.5	16.0	9.5	26.0	27.0	92.0	3.40
Rounded 2-1&2-2	14.0	16.0	9.0	26.0	27.0	92.0	
2-3	21	33	18	15	5	92.0	2.46
2-4	21	39	19	10	3	92.0	2.29
2-5	13	25	30	20	4	92.0	2.75
Avg. Ques 2	17.1	28.3	19.1	17.8	9.8	92.0	2.73
Rounded Avg. 2	17.0	28.0	19.0	18.0	10.0	92.0	
	Strongly Dis.	Disagree	Neutral	Agree	Strongly Agree		
3	11	35	11	27	8	92.0	2.85
	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.		
4	21	39	26	3	3	92.0	2.22
Avg. Ques 1-4	17.8	33.4	18.6	16.0	6.3	92.0	2.56
Rounded Avg. 1-4	18.0	33.0	19.0	16.0	6.0	92.0	
Avg. Ques 1-3	16.7	31.5	16.1	20.3	7.4	92.0	2.68
Rounded Avg. 1-3	17.0	32.0	16.0	20.0	7.0	92.0	
Non Big-5 Survey Responses:		92					
Surveys Sent to Non Big-5:		142					
Non Big-5 Response Rate:		64.8%					

Notice that the individual spreadsheets have three additional columns labeled "Notes," "Little Sense," and "No Sense" respectively. The Notes column simply points out individual surveys where someone wrote additional notes explaining their feelings on the topic. Respondent 1 wrote notes on his or her survey (see Exhibit V-7) expressing his

or her views on the value that a tax consultant adds that software cannot. The other two columns have formulas within that point out if a respondent's results make no or little sense. This allows for the possibility of excluding certain respondents' results from the results of each group, which is all discussed in the next subsection.

C. Exclusions

Some of the surveys made little or no sense. Respondent 158's survey can be seen in Exhibit V-8. For the majority of the answers in questions 1 and 2, the respondent agreed that the factors limit or will limit a majority of their clients from using the tax software and for some factors the respondent strongly agreed that the factors are limiting. Respondent 158 then strongly agreed that many of his or her clients would switch to using the tax software in question 3. The respondent's answer to question 3 makes no sense in light of the respondent's answers to question's 1 and 2. How can his or her clients switch to the tax software if factors exist that limit the clients from using the software?

Exhibit V-7: Respondent 1's Completed Survey

FISHER
COLLEGE OF BUSINESS
THE OHIO STATE UNIVERSITY

DEPARTMENT OF ACCOUNTING AND MANAGEMENT INFORMATION SYSTEMS

1. For each of the following factors, please circle to what extent you agree or disagree that the factor presently limits a personal tax preparation software program, such as TurboTax or TaxCut, from serving as the tax return preparer of choice for the majority of your clients:

   1) Access to a computer.
   Strongly Agree Agree Neutral Disagree Strongly Disagree

   2) Access to the software program/Internet.
   Strongly Agree Agree Neutral Disagree Strongly Disagree

   3) Inability of the software program to handle complex issues/new tax laws.
   Strongly Agree Agree Neutral Disagree Strongly Disagree

   4) Inability of the software program to provide customers with an overall sense of security.
   Strongly Agree Agree Neutral Disagree Strongly Disagree

   5) User friendliness (or lack thereof) of the tax software program.
   Strongly Agree Agree Neutral Disagree Strongly Disagree

2. For each of the following factors, please circle to what extent you agree or disagree that the factor will limit a personal tax preparation software program, such as TurboTax or TaxCut, from serving as the tax return preparer of choice for the majority of your clients ten years from now:

   1) Access to a computer.
   Strongly Agree Agree Neutral Disagree Strongly Disagree

   2) Access to the software program/Internet.
   Strongly Agree Agree Neutral Disagree Strongly Disagree

   3) Inability of the software program to handle complex issues/new tax laws.
   Strongly Agree Agree Neutral Disagree Strongly Disagree

   4) Inability of the software program to provide customers with an overall sense of security.
   Strongly Agree Agree Neutral Disagree Strongly Disagree

   5) User friendliness (or lack thereof) of the tax software program.
   Strongly Agree Agree Neutral Disagree Strongly Disagree

3. Please circle to what extent you agree or disagree with the following statement: Many of your present clients will switch to using a personal tax preparation software program, such as TurboTax or TaxCut, to prepare their income tax returns within the next 10 years.
   Strongly Agree Agree Neutral Disagree Strongly Disagree

4. Please circle to what extent you agree or disagree with the following statement: If you knew information that would be helpful in improving personal tax preparation software programs, you would be willing to share that information with the software designers.
   Strongly Agree Agree Neutral Disagree Strongly Disagree

Thank you for completing this student research project survey.

460 FISHER HALL • 2100 NEIL AVENUE • COLUMBUS, OH 43210-1144
TELEPHONE: 614-292-9388 • FAX: 614-292-2148 • http://www.cob.ohio-state.edu

Exhibit V-8: Respondent 158's Completed Survey

158

FISHER
COLLEGE OF BUSINESS
THE OHIO STATE UNIVERSITY

DEPARTMENT OF ACCOUNTING AND MANAGEMENT INFORMATION SYSTEMS

1. For each of the following factors, please circle to what extent you agree or disagree that the factor presently limits a personal tax preparation software program, such as TurboTax or TaxCut, from serving as the tax return preparer of choice for the majority of your clients:
   1) Access to a computer.
      Strongly Agree Agree Neutral Disagree Strongly Disagree
   2) Access to the software program/Internet.
      Strongly Agree Agree Neutral Disagree Strongly Disagree
   3) Inability of the software program to handle complex issues/new tax laws.
      Strongly Agree Agree Neutral Disagree Strongly Disagree
   4) Inability of the software program to provide customers with an overall sense of security.
      Strongly Agree Agree Neutral Disagree Strongly Disagree
   5) User friendliness (or lack thereof) of the tax software program.
      Strongly Agree Agree Neutral Disagree Strongly Disagree

2. For each of the following factors, please circle to what extent you agree or disagree that the factor will limit a personal tax preparation software program, such as TurboTax or TaxCut, from serving as the tax return preparer of choice for the majority of your clients ten years from now:
   1) Access to a computer.
      Strongly Agree Agree Neutral Disagree Strongly Disagree
   2) Access to the software program/Internet.
      Strongly Agree Agree Neutral Disagree Strongly Disagree
   3) Inability of the software program to handle complex issues/new tax laws.
      Strongly Agree Agree Neutral Disagree Strongly Disagree
   4) Inability of the software program to provide customers with an overall sense of security.
      Strongly Agree Agree Neutral Disagree Strongly Disagree
   5) User friendliness (or lack thereof) of the tax software program.
      Strongly Agree Agree Neutral Disagree Strongly Disagree

3. Please circle to what extent you agree or disagree with the following statement: Many of your present clients will switch to using a personal tax preparation software program, such as TurboTax or TaxCut, to prepare their income tax returns within the next 10 years.
   Strongly Agree Agree Neutral Disagree Strongly Disagree

4. Please circle to what extent you agree or disagree with the following statement: If you knew information that would be helpful in improving personal tax preparation software programs, you would be willing to share that information with the software designers.
   Strongly Agree Agree Neutral Disagree Strongly Disagree

Thank you for completing this student research project questionnaire.

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Respondent 7's survey (see Exhibit V-9) is an example of a survey that makes relatively little sense in regard to the answers in questions 1 through 3. Unlike respondent 158, respondent 7 strongly disagreed that the factors listed in questions 1 and 2 will limit his or her clients from using the tax software both now and in the future. The respondent then strongly disagrees that many of his or her clients will switch to using the tax software. If the clients face no limitations regarding the use of the software, then why wouldn't they switch to using the software to prepare their taxes? The reason why this survey makes little sense versus no sense as in the previous survey is because it is possible that the respondent thinks that although the listed factors do not limit his or her clients, other unlisted factors do exist that limit the clients from using the software. For instance, the clients may come to see the tax professional more so for his or her great personality than for his or her ability to prepare their tax returns. But it is also possible that the respondent didn't read the questions carefully enough and answered the opposite on either questions 1 and 2 or question 3 than he or she would have if he or she had fully understood the question prior to answering.

Exhibit V-9: Respondent 7's Completed Survey

7

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DEPARTMENT OF ACCOUNTING AND MANAGEMENT INFORMATION SYSTEMS

1. For each of the following factors, please circle to what extent you agree or disagree that the factor presently limits a personal tax preparation software program, such as TurboTax or TaxCut, from serving as the tax return preparer of choice for the majority of your clients:
   1) Access to a computer.
      Strongly Agree Agree Neutral Disagree Strongly Disagree
   2) Access to the software program/Internet.
      Strongly Agree Agree Neutral Disagree Strongly Disagree
   3) Inability of the software program to handle complex issues/new tax laws.
      Strongly Agree Agree Neutral Disagree Strongly Disagree
   4) Inability of the software program to provide customers with an overall sense of security.
      Strongly Agree Agree Neutral Disagree Strongly Disagree
   5) User friendliness (or lack thereof) of the tax software program.
      Strongly Agree Agree Neutral Disagree Strongly Disagree

2. For each of the following factors, please circle to what extent you agree or disagree that the factor will limit a personal tax preparation software program, such as TurboTax or TaxCut, from serving as the tax return preparer of choice for the majority of your clients ten years from now:
   1) Access to a computer.
      Strongly Agree Agree Neutral Disagree Strongly Disagree
   2) Access to the software program/Internet.
      Strongly Agree Agree Neutral Disagree Strongly Disagree
   3) Inability of the software program to handle complex issues/new tax laws.
      Strongly Agree Agree Neutral Disagree Strongly Disagree
   4) Inability of the software program to provide customers with an overall sense of security.
      Strongly Agree Agree Neutral Disagree Strongly Disagree
   5) User friendliness (or lack thereof) of the tax software program.
      Strongly Agree Agree Neutral Disagree Strongly Disagree

3. Please circle to what extent you agree or disagree with the following statement: Many of your present clients will switch to using a personal tax preparation software program, such as TurboTax or TaxCut, to prepare their income tax returns within the next 10 years.
   Strongly Agree Agree Neutral Disagree Strongly Disagree

4. Please circle to what extent you agree or disagree with the following statement: If you knew information that would be helpful in improving personal tax preparation software programs, you would be willing to share that information with the software designers.
   Strongly Agree Agree Neutral Disagree Strongly Disagree

Thank you for completing this student research project survey.

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When I first entered the data, I found several responses that made little or no sense. Instead of going through all 177 surveys to find inconsistencies, I developed spreadsheet formulas in the "Little Sense" and "No Sense" columns of the individual data entry spreadsheet (Appendix A-2). The basic logic behind the "Little Sense" formula is that if the respondent for the most part at least disagrees that the factors are limiting in either question 1 or question 2 and the respondent did not strongly agree on any of the factors and the respondent at least disagrees with question 3, then the spread sheet will enter a "Yes" next to that respondent's answers in the "Little Sense" column. An example of the "Little Sense" formula can be seen in Exhibit V-10, which shows the data entry for respondent 7. Respondent 7 meets the requirements of making little sense; therefore a "Yes" appears in the "Little Sense" column. Neither Respondent 6 nor 8's answers met these requirements, therefore the formula left the corresponding cells in the "Little Sense" column blank. The reason why the formula enters a "yes" if the requirement is met in either question 1 or 2 is because if no factors are limiting in either the present or future then this means that within the next ten years many of the respondent's clients are likely to switch to using the software.

Exhibit V-10: Little Sense Formula – Respondent 7

	Column:	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
		1=Strongly Agree, 5=Strongly Disagree (Reverse Ques. 3)														
Row		1-1	1-2	1-3	1-4	1-5	2-1	2-2	2-3	2-4	2-5	3	4	Notes	Little Sense	No Sense
8	Resp. 6	4	4	2	2	2	5	5	3	2	3	2	4			
9	**Resp. 7**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**1**	**2**		**Yes**	
10	Resp. 8	4	4	4	2	2	5	4	3	3	3	2	4			

Formula in cell P9:
=IF(AND(OR(AND(SUM(H9:L9)>19,COUNTIF(H9:L9,"<3")=0),AND
(SUM(C9:G9)>19,COUNTIF(C9:G9,"<3")=0)),M9<3),"Yes"," ")

The "No Sense" formula can be seen in Exhibit V-11, which uses respondent 158's data as an example. The basic logic behind this formula is that if the respondent for the most part at least on average agrees that the factors are limiting in both questions 1 and 2 and the respondent did not strongly disagree on any of the factors and the respondent either agrees or strongly agrees with question 3, then the spread sheet will enter a "Yes" next to that respondent's answers in the "No Sense" column. The "No Sense" formula uses essentially the same idea as the "Little Sense" formula, with the exception that the condition must hold in both questions 1 and 2 before the formula will rule a respondent as not making sense. The reason variance in logic is that if the person agrees in the present but disagrees in the future that a factor will be limiting, then it makes sense that many of the respondent's clients will leave in the next 10 years. However, if the factors are limiting both now and in the future (as respondent 158 answered), then it hardly makes sense that the respondent believes that many of his or her clients will switch to using the software within the next 10 years.

Exhibit V-11: No Sense Formula – Respondent 158

	Column:	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
		1=Strongly Agree, 5=Strongly Disagree (Reverse Ques. 3)														
Row		1-1	1-2	1-3	1-4	1-5	2-1	2-2	2-3	2-4	2-5	3	4	Notes	Little Sense	No Sense
165	Resp. 157	1	1	1	2	1	5	5	1	2	2	3	1			
166	**Resp. 158**	**1**	**1**	**2**	**3**	**2**	**2**	**2**	**2**	**2**	**1**	**5**	**2**			**Yes**
167	Resp. 159	2	1	1	1	1	5	4	3	2	3	3	1			

Formula in cell Q166:
=IF(AND(AND(AND(SUM(H166:L166)<11,COUNTIF(H166:L166,">3")=0),AND(SUM(C166:G166)<11,COUNTIF(C166:G166,">3")=0)),M166>3),"Yes"," ")

The individual data entry spreadsheet in Appendix A-2 is a complete spreadsheet with none of the individual results excluded. The "Result Summary" section on page 5 of the exhibit determines the number of surveys that make "No Sense" and "Little Sense" surveys for both groups (Big-5 and non Big-5). The spreadsheet simply counts each "Yes" in both the "No Sense" and "Little Sense" columns. Notice that there are 3 Big-5 surveys that make "No Sense" and 12 Big-5 surveys that make little sense for a total of 15 surveys that make either no or little sense. Likewise, there are 12 non Big-5 surveys that make "No Sense" and 7 non Big-5 surveys that make little sense for a total of 19 surveys that make either no or little sense in the non Big-5 group. Once this spreadsheet containing no exclusions was created, it was easy to make spreadsheets that excluded the surveys that made "No Sense" and the surveys that made "Little Sense" to come up with more sensible overall group results.

The spreadsheet contained in Appendix A-3 shows the individual survey results with the "No Sense" survey information excluded. Starting with the original spreadsheet in Appendix A-2 and deleting the respondent information in each of the rows with a

"Yes" in the "No Sense" column created this spreadsheet. The "Result Summary" section on page 5 of the spreadsheet shows that there are now 82 Big-5 surveys included in the results for a survey inclusion rate of 96.47%. The result summary also shows that there are only 80 non Big-5 surveys included in the results after the "No Sense" exclusion for a non Big-5 survey inclusion rate of 86.96%. This shows that the non Big-5 group was affected more by the "No Sense" exclusion than the Big-5 group.

The spreadsheet automatically updated the group results in the "Results Summary," therefore new weighted-averages were calculated that took the exclusion into account. I then entered this new information into new Group Results spreadsheets (see exhibits V-12 and V-13) that excluded "No Sense" surveys. The new Group Results spreadsheets show overall response rates with the exclusion of 78.8% for the Big-5 group and 56.3% for the non Big-5 group. These rates differ from the previous inclusion rates in that they take into account both the response rates and the exclusion.

Similarly, I created a new individual data entry spreadsheet that excluded not only the "No Sense" surveys but also the "Little Sense" surveys as well (see Appendix A-4). The "Result Summary" section on page 5 of the new spreadsheet shows that after the exclusion there are 70 Big-5 surveys included in the results for a survey inclusion rate of 82.35%. The result summary also shows that there are only 73 non Big-5 surveys included in the results after the exclusion for a non Big-5 survey inclusion rate of 79.35%.

Exhibit V-12: Big-5 Results Spreadsheet – Excluding No Sense

Assigned Values:	1	2	3	4	5		Weighted
Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.	Total	Average
1-1	7	7	7	32	29	82.0	3.84
1-2	6	10	12	33	21	82.0	3.65
Comb. 1-1&1-2	6.5	8.5	9.5	32.5	25.0	82.0	3.74
Rounded 1-1&1-2	7.0	8.0	9.0	33.0	25.0	82.0	
1-3	21	34	6	14	7	82.0	2.41
1-4	22	32	11	9	8	82.0	2.38
1-5	7	25	27	16	7	82.0	2.89
Avg. Ques 1	14.1	24.9	13.4	17.9	11.8	82.0	2.86
Rounded Avg. 1	14.0	25.0	13.0	18.0	12.0	82.0	
2-1	4	3	3	22	50	82.0	4.35
2-2	4	3	5	29	41	82.0	4.22
Comb. 2-1/2-2	4.0	3.0	4.0	25.5	45.5	82.0	4.29
Rounded 2-1&2-2	4.0	3.0	4.0	25.0	46.0	82.0	
2-3	13	29	17	16	7	82.0	2.70
2-4	16	28	20	13	5	82.0	2.55
2-5	5	14	26	25	12	82.0	3.30
Avg. Ques 2	9.5	18.5	16.8	19.9	17.4	82.0	3.21
Rounded Avg. 2	10.0	18.0	17.0	20.0	17.0	82.0	
	Strongly Dis.	Disagree	Neutral	Agree	Strongly Agree		
3	22	48	5	4	3	82.0	2.00
	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.		
4	14	46	15	6	1	82.0	2.20
Avg. Ques 1-4	14.9	34.3	12.5	11.9	8.3	82.0	2.57
Rounded Avg. 1-4	15.0	34.0	13.0	12.0	8.0	82.0	
Avg. Ques 1-3	15.2	30.5	11.7	13.9	10.7	82.0	2.69
Rounded Avg. 1-3	15.0	30.0	12.0	14.0	11.0	82.0	
Big-5 Responses Included:		82					
Surveys Sent to Big-5:		104					
Big-5 Resp (w/ Excl.) Rate:		78.8%					

Exhibit V-13: Non Big-5 Results Spreadsheet – Excluding No Sense

Assigned Values:	1	2	3	4	5		Weighted
Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.	Total	Average
1-1	12	27	11	15	15	80.0	2.93
1-2	14	20	10	28	8	80.0	2.95
Comb. 1-1/1-2	13.0	23.5	10.5	21.5	11.5	80.0	2.94
Rounded 1-1&1-2	13.0	24.0	11.0	21.0	11.0	80.0	
1-3	28	24	13	13	2	80.0	2.21
1-4	13	35	16	14	2	80.0	2.46
1-5	13	21	28	16	2	80.0	2.66
Avg. Ques 1	16.8	25.9	16.9	16.1	4.4	80.0	2.57
Rounded Avg. 1	17.0	26.0	17.0	16.0	4.0	80.0	
2-1	7	11	9	24	29	80.0	3.71
2-2	5	13	9	28	25	80.0	3.69
Comb. 2-1/2-2	6.0	12.0	9.0	26.0	27.0	80.0	3.70
Rounded 2-1&2-2	6.0	12.0	9.0	26.0	27.0	80.0	
2-3	14	29	17	15	5	80.0	2.60
2-4	17	34	16	10	3	80.0	2.35
2-5	7	20	29	20	4	80.0	2.93
Avg. Ques 2	11.0	23.8	17.8	17.8	9.8	80.0	2.89
Rounded Avg. 2	11.0	24.0	17.0	18.0	10.0	80.0	
	Strongly Dis.	Disagree	Neutral	Agree	Strongly Agree		
3	11	35	11	19	4	80.0	2.63
	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.		
4	17	36	21	3	3	80.0	2.24
Avg. Ques 1-4	13.9	30.2	16.7	14.0	5.3	80.0	2.58
Rounded Avg. 1-4	14.0	30.0	17.0	14.0	5.0	80.0	
Avg. Ques 1-3	12.9	28.2	15.2	17.6	6.0	80.0	2.70
Rounded Avg. 1-3	13.0	28.0	15.0	18.0	6.0	80.0	
Non Big-5 Responses Included:		80					
Surveys Sent to Non Big-5:		142					
Non Big-5 Resp (w/ Excl.) Rate:		56.3%					

Again the spreadsheet automatically updated the group results in the "Results Summary" and new weighted-averages were calculated that took the expanded exclusion into account. I then entered this new information into new group results spreadsheets (see exhibits V-14 and V-15) that excluded both "No Sense" and "Little Sense" surveys. The

new group result spreadsheets show overall response rates with both exclusions of 67.3% for the Big-5 group and 51.4% for the non Big-5 group.

Exhibit V-14: Big-5 Results Spreadsheet – Excluding Both No and Little Sense

Assigned Values:	1	2	3	4	5		Weighted
Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.	Total	Averge
1-1	7	6	7	28	22	70.0	3.74
1-2	6	9	11	29	15	70.0	3.54
Comb. 1-1&1-2	6.5	7.5	9.0	28.5	18.5	70.0	3.64
Rounded 1-1&1-2	7.0	7.0	9.0	28.0	19.0	70.0	
1-3	21	32	6	9	2	70.0	2.13
1-4	22	31	9	4	4	70.0	2.10
1-5	7	24	23	13	3	70.0	2.73
Avg. Ques 1	14.1	23.6	11.8	13.6	6.9	70.0	2.65
Rounded Avg. 1	14.0	24.0	12.0	13.0	7.0	70.0	
2-1	4	3	3	20	40	70.0	4.27
2-2	4	3	5	26	32	70.0	4.13
Comb. 2-1/2-2	4.0	3.0	4.0	23.0	36.0	70.0	4.20
Rounded 2-1&2-2	4.0	3.0	4.0	23.0	36.0	70.0	
2-3	13	29	16	10	2	70.0	2.41
2-4	16	28	19	5	2	70.0	2.27
2-5	5	14	25	19	7	70.0	3.13
Avg. Ques 2	9.5	18.5	16.0	14.3	11.8	70.0	3.00
Rounded Avg. 2	10.0	18.0	16.0	14.0	12.0	70.0	
	Strongly Dis.	Disagree	Neutral	Agree	Strongly Agree		
3	18	40	5	4	3	70.0	2.06
	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.		
4	13	38	13	5	1	70.0	2.19
Avg. Ques 1-4	13.7	30.0	11.4	9.2	5.7	70.0	2.47
Rounded Avg. 1-4	14.0	30.0	11.0	9.0	6.0	70.0	
Avg. Ques 1-3	13.9	27.4	10.9	10.6	7.2	70.0	2.57
Rounded Avg. 1-3	14.0	27.0	11.0	11.0	7.0	70.0	
Big-5 Responses Included:		70					
Surveys Sent to Big-5:		104					
Big-5 Resp (w/ Excl.) Rate:		67.3%					

Exhibit V-15: Non Big-5 Results Spreadsheet – Excluding Both No and Little Sense

Assigned Values:	1	2	3	4	5		Weighted
Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.	Total	Average
1-1	11	26	10	12	14	73.0	2.89
1-2	13	19	9	24	8	73.0	2.93
Comb. 1-1/1-2	12.0	22.5	9.5	18.0	11.0	73.0	2.91
Rounded 1-1&1-2	12.0	23.0	9.0	18.0	11.0	73.0	
1-3	28	24	11	9	1	73.0	2.05
1-4	13	34	15	10	1	73.0	2.34
1-5	13	20	26	13	1	73.0	2.58
Avg. Ques 1	16.5	25.1	15.4	12.5	3.5	73.0	2.47
Rounded Avg. 1	17.0	25.0	15.0	12.0	4.0	73.0	
2-1	7	11	8	22	25	73.0	3.64
2-2	5	13	9	24	22	73.0	3.62
Comb. 2-1/2-2	6.0	12.0	8.5	23.0	23.5	73.0	3.63
Rounded 2-1&2-2	6.0	12.0	8.0	23.0	24.0	73.0	
2-3	14	29	15	12	3	73.0	2.47
2-4	17	34	15	6	1	73.0	2.18
2-5	7	20	29	15	2	73.0	2.79
Avg. Ques 2	11.0	23.8	16.9	14.0	7.4	73.0	2.77
Rounded Avg. 2	11.0	24.0	17.0	14.0	7.0	73.0	
	Strongly Dis.	Disagree	Neutral	Agree	Strongly Agree		
3	8	31	11	19	4	73.0	2.73
	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.		
4	14	34	19	3	3	73.0	2.27
Avg. Ques 1-4	12.4	28.5	15.6	12.1	4.5	73.0	2.56
Rounded Avg. 1-4	12.0	29.0	16.0	12.0	4.0	73.0	
Avg. Ques 1-3	11.8	26.6	14.4	15.2	5.0	73.0	2.65
Rounded Avg. 1-3	12.0	27.0	14.0	15.0	5.0	73.0	
Non Big-5 Responses Included:		73					
Surveys Sent to Non Big-5:		142					
Non Big-5 Resp (w/ Excl.) Rate:		51.4%					

D. Combined Data and Group Comparison Summary

After the 6 group result spreadsheets (with and without exclusions) were devised, it was easy to make 3 combined spreadsheets that simply combined the inputs for both the Big-5 and non Big-5 groups. The combining of the results is important to the research

project, because the overall purpose of the project is not just to make comparisons between Big-5 and non Big-5 professionals but to say something about the impact of the software programs on tax professionals in general. The combined result spreadsheets are as follows: Exhibit V-16 (no exclusions), Exhibit V-17 (excluding no sense), and Exhibit V-18 (excluding both no and little sense).

Because of the difficulty analyzing so many different spreadsheets, I combined the general results of the various spreadsheets into two summarized spreadsheets: the Combined Summary (Exhibit V-19) and the Group Comparison (Exhibit V-20). The Combined Summary just summarizes the weighted-averages, the number of responses, and the response rates from the 3 Combined Result spreadsheets. Higher weighted-averages, on a scale of 1 through 5, relate to an overall increase in the level that the tax software threatens tax professionals. Following the results of each major question (1,2,3,4) and the overall threat factors, a spread between 3.00 (neutral) and the factor is calculated. As seen in the "Excl. No & Lil Sense" column, the overall included survey responses decreased by 34 surveys due to excluding both the "No Sense" and "Little Sense" surveys. This exclusion resulted in an overall response/inclusion rate decrease of 13.82%.

Exhibit V-16: Combined Results Spreadsheet – No Exclusions

Assigned Values:	1	2	3	4	5		Weighted
Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.	Total	Average
1-1	32	36	18	47	44	177.0	3.20
1-2	29	35	23	61	29	177.0	3.15
Comb. 1-1/1-2	30.5	35.5	20.5	54.0	36.5	177.0	3.17
Rounded 1-1&1-2	31.0	35.0	20.0	54.0	37.0	177.0	
1-3	56	64	21	27	9	177.0	2.26
1-4	39	74	31	23	10	177.0	2.38
1-5	26	55	55	32	9	177.0	2.68
Avg. Ques 1	37.9	57.1	31.9	34.0	16.1	177.0	2.62
Rounded Avg. 1	38.0	57.0	32.0	34.0	16.0	177.0	
2-1	22	17	13	46	79	177.0	3.81
2-2	17	23	14	57	66	177.0	3.75
Comb. 2-1/2-2	19.5	20.0	13.5	51.5	72.5	177.0	3.78
Rounded 2-1&2-2	19.0	20.0	14.0	51.0	73.0	177.0	
2-3	36	63	35	31	12	177.0	2.55
2-4	39	68	39	23	8	177.0	2.40
2-5	19	41	56	45	16	177.0	2.99
Avg. Ques 2	28.4	48.0	35.9	37.6	27.1	177.0	2.93
Rounded Avg. 2	28.0	48.0	36.0	38.0	27.0	177.0	
	Strongly Dis.	Disagree	Neutral	Agree	Strongly Agree		
3	33	83	16	33	12	177.0	2.48
	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.		
4	36	86	42	9	4	177.0	2.20
Avg. Ques 1-4	33.8	68.5	31.4	28.4	14.8	177.0	2.56
Rounded Avg. 1-4	34.0	69.0	31.0	28.0	15.0	177.0	
Avg. Ques 1-3	33.1	62.7	27.9	34.9	18.4	177.0	2.68
Rounded Avg. 1-3	33.0	63.0	28.0	35.0	18.0	177.0	
Total Survey Responses:		177					
Total Surveys Sent:		246					
Survey Response Rate:		72.0%					

Exhibit V-17: Combined Results Spreadsheet – Excluding No Sense

Assigned Values:	1	2	3	4	5		Weighted
Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.	Total	Average
1-1	19	34	18	47	44	162.0	3.39
1-2	20	30	22	61	29	162.0	3.30
Comb. 1-1/1-2	19.5	32.0	20.0	54.0	36.5	162.0	3.35
Rounded 1-1&1-2	19.0	32.0	20.0	54.0	37.0	162.0	
1-3	49	58	19	27	9	162.0	2.31
1-4	35	67	27	23	10	162.0	2.42
1-5	20	46	55	32	9	162.0	2.78
Avg. Ques 1	30.9	50.8	30.3	34.0	16.1	162.0	2.71
Rounded Avg. 1	31.0	51.0	30.0	34.0	16.0	162.0	
2-1	11	14	12	46	79	162.0	4.04
2-2	9	16	14	57	66	162.0	3.96
Comb. 2-1/2-2	10.0	15.0	13.0	51.5	72.5	162.0	4.00
Rounded 2-1&2-2	10.0	15.0	13.0	51.0	73.0	162.0	
2-3	27	58	34	31	12	162.0	2.65
2-4	33	62	36	23	8	162.0	2.45
2-5	12	34	55	45	16	162.0	3.12
Avg. Ques 2	20.5	42.3	34.5	37.6	27.1	162.0	3.05
Rounded Avg. 2	21.0	42.0	34.0	38.0	27.0	162.0	
	Strongly Dis.	Disagree	Neutral	Agree	Strongly Agree		
3	33	83	16	23	7	162.0	2.31
	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.		
4	31	82	36	9	4	162.0	2.22
Avg. Ques 1-4	28.8	64.5	29.2	25.9	13.6	162.0	2.57
Rounded Avg. 1-4	29.0	64.0	29.0	26.0	14.0	162.0	
Avg. Ques 1-3	28.1	58.7	26.9	31.5	16.8	162.0	2.69
Rounded Avg. 1-3	28.0	59.0	27.0	31.0	17.0	162.0	
Total Responses Included:		162					
Total Surveys Sent:		246					
Total Resp (w/ Excl.) Rate:		65.9%					

Exhibit V-18: Combined Results Spreadsheet – Excluding Both No and Little Sense

Assigned Values:	1	2	3	4	5		Weighted
Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.	Total	Average
1-1	18	32	17	40	36	143.0	3.31
1-2	19	28	20	53	23	143.0	3.23
Comb. 1-1/1-2	18.5	30.0	18.5	46.5	29.5	143.0	3.27
Rounded 1-1&1-2	19.0	30.0	18.0	46.0	30.0	143.0	
1-3	49	56	17	18	3	143.0	2.09
1-4	35	65	24	14	5	143.0	2.22
1-5	20	44	49	26	4	143.0	2.65
Avg. Ques 1	30.6	48.8	27.1	26.1	10.4	143.0	2.56
Rounded Avg. 1	31.0	49.0	27.0	26.0	10.0	143.0	
2-1	11	14	11	42	65	143.0	3.95
2-2	9	16	14	50	54	143.0	3.87
Comb. 2-1/2-2	10.0	15.0	12.5	46.0	59.5	143.0	3.91
Rounded 2-1&2-2	10.0	15.0	12.0	46.0	60.0	143.0	
2-3	27	58	31	22	5	143.0	2.44
2-4	33	62	34	11	3	143.0	2.22
2-5	12	34	54	34	9	143.0	2.96
Avg. Ques 2	20.5	42.3	32.9	28.3	19.1	143.0	2.88
Rounded Avg. 2	21.0	42.0	33.0	28.0	19.0	143.0	
	Strongly Dis.	Disagree	Neutral	Agree	Strongly Agree		
3	26	71	16	23	7	143.0	2.40
	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis.		
4	27	72	32	8	4	143.0	2.23
Avg. Ques 1-4	26.0	58.5	27.0	21.3	10.1	143.0	2.52
Rounded Avg. 1-4	26.0	59.0	27.0	21.0	10.0	143.0	
Avg. Ques 1-3	25.7	54.0	25.3	25.8	12.2	143.0	2.61
Rounded Avg. 1-3	26.0	54.0	25.0	26.0	12.0	143.0	
Total Responses Included:		143					
Total Surveys Sent:		246					
Total Resp Rate (w/ Excl.):		58.1%					

The Group Comparison Summary in Exhibit V-20 follows the same format as the Combined Summary by having 3 general columns of "No Exclusions," "Excluding No Sense," and "Excluding No & Little Sense." Each general column compares the weighted-averages between the two groups. Following the results of each major question (1,2,3,4) and the overall threat factor, a spread between the groups is calculated by taking

the Non Big-5 weighted-average and subtracting from it the Big-5 weighted-average. Notice that the total responses included with both exclusions is about the same for the two groups (70 vs. 73). Also note that the overall response/inclusion rate decreases by about one percent more in the Big-5 group than the non Big-5 group due to the exclusion.

Exhibit V-19: Combined Summary

		No Exclusions		Excl. No Sense		Excl. No & Lil Sense	
Present software/client attributes	Survey Questions						
Software accessibility	Comb. 1-1&1-2	3.17		3.35		3.27	
Handle complex issues/new tax laws	1-3	2.26		2.31		2.09	
Overall sense of security	1-4	2.38		2.42		2.22	
Userfriendliness of program	1-5	2.68		2.78		2.65	
Present overall limiting factors	Average 1	2.62	S	2.71	S	2.56	S
Spread from 3.00		*0.38*		*0.29*		*0.44*	
Future software/client attributes							
Software accessibility	Comb. 2-1&2-2	3.78		4.00		3.91	
Handle complex issues/new tax laws	2-3	2.55		2.65		2.44	
Overall sense of security	2-4	2.40		2.45		2.22	
Userfriendliness of program	2-5	2.99		3.12		2.96	
Future overall limiting factors	Average 2	2.93	S	3.05	N	2.88	S
Spread from 3.00		*0.07*		*(0.05)*		*0.12*	
Clients switching to software	3	2.48	S	2.31	S	2.40	S
Spread from 3.00		*0.52*		*0.69*		*0.60*	
Desire to help software designers	4	2.20	S	2.22	S	2.23	S
Spread from 3.00		*0.80*		*0.78*		*0.77*	
Overall threat factor	Average 1-4	2.56	S	2.57	S	2.52	S
Spread from 3.00		*0.44*		*0.43*		*0.48*	
Overall threat factor (excl. helping)	Average 1-3	2.68	S	2.69	S	2.61	S
Spread from 3.00		*0.32*		*0.31*		*0.39*	
Total responses included		177		162		143	
Overall Resp. dec. due to exclusion				15		34	
Resp rate (w/ exclusion):		71.95%		65.85%		58.13%	
Overall rate dec. due to exclusion				6.10%		13.82%	

Exhibit V-20: Group Comparison Summary

		No Exclusions				Excluding No Sense				Excluding No & Lil Sense			
Present attributes	Survey Quest.	Big-5		Non Big-5		Big-5		Non Big-5		Big-5		Non Big-5	
Software accessibility	Comb. 1-1&1-2	3.66	>	2.72	S	3.74	>	2.94	S	3.64	>	2.91	S
Handle complex issues	1-3	2.39	>	2.14	N	2.41	>	2.21	N	2.13	>	2.05	N
Overall sense of security	1-4	2.34	<	2.42	S	2.38	<	2.46	S	2.10	<	2.34	S
Userfriendliness	1-5	2.85	>	2.52		2.89	>	2.66		2.73	>	2.58	
Present limiting factors	Average 1	2.81	>	2.45	N	2.86	>	2.57	N	2.65	>	2.47	N
Spread between groups		*(0.36)*				*(0.29)*				*(0.18)*			
Future attributes													
Software accessibility	Comb. 2-1&2-2	4.18	>	3.40	S	4.29	>	3.70	S	4.20	>	3.63	S
Handle complex issues	2-3	2.65	>	2.46	N	2.70	>	2.60	N	2.41	<	2.47	S
Overall sense of security	2-4	2.51	>	2.29	N	2.55	>	2.35	N	2.27	>	2.18	N
Userfriendliness	2-5	3.25	>	2.75		3.30	>	2.93		3.13	>	2.79	
Future limiting factors	Average 2	3.15	>	2.73	N	3.21	>	2.89	N	3.00	>	2.77	N
Spread between groups		*(0.42)*				*(0.32)*				*(0.24)*			
Clients switching	3	2.08	<	2.85	S	2.00	<	2.63	S	2.06	<	2.73	S
Spread between groups		*0.77*				*0.63*				*0.67*			
Help software designers	4	2.19	<	2.22	S	2.20	<	2.24	S	2.19	<	2.27	S
Spread between groups		*0.03*				*0.04*				*0.09*			
Overall threat factor	Average 1-4	2.56	=	2.56	N	2.57	<	2.58	S	2.47	<	2.56	S
Spread between groups		*0.00*				*0.02*				*0.09*			
OTF (excl. helping)	Average 1-3	2.68	=	2.68	N	2.69	<	2.70	S	2.57	<	2.65	S
Spread between groups		*(0.00)*				*0.01*				*0.08*			
Total responses included		85	<	92		82	>	80		70	<	73	
Resp. dec. due to excl.						3	<	12		15	<	19	
Resp rate (w/ exclusion):		81.7%	>	64.8%		78.8%	>	56.3%		67.3%	>	51.4%	
Rate dec. due to exc.						2.9%	<	8.5%		14.4%	>	13.4%	

E. Testing the Hypotheses

The Combined Summary (Exhibit V-19) and the Group Comparison Summary (Exhibit V-20) provide the basis for determining whether or not the survey results support the Hypotheses. All of the hypotheses that relate to tax professionals support the first general hypothesis. These combined group hypotheses are relatively easy to test. If the weighted-average is less than 3.00, then it supports the hypothesis that the tax professionals are not threatened.

The combined group hypotheses are hypotheses 1 through 5. Hypotheses 1 through 4 deal directly with questions 1 through 4. Hypothesis 1 states that on average tax professionals feel that the factors in question 1 of the survey presently limit their clients from using the tax software to prepare their returns. Hypothesis 1 is tested by comparing the overall factor average for question 1 with the neutral number 3.00. If the factor average is less than 3.00, then it supports Hypothesis 1. As can be seen in the Combined Summary, the question 1 average in all three columns is less than 3.00. A formula in the cell to the right of each weighted-average compares the weighted-average to 3.00 and places an "S" in each cell because each question 1 weighted-average supports the hypothesis. Also notice how with all the "No sense" and "Little Sense" survey results removed, the spread from 3.00 (neutral) is higher than with no exclusions and therefore supports hypothesis 1 that much more.

Hypothesis 2 states that on average tax professionals feel that the factors in question 2 of the survey will limit their clients from using the tax software to prepare their returns in the future. The factor averages for question 2 with both no exclusions and all exclusions support hypothesis 2 because the factors are less than 3.00. The factor average with just the "No Sense" exclusion in place does not support hypothesis 2, because this number is greater than 3.00. Two things stand out when looking at the spreads in each column. One is, like the question 1 results, the spread is higher with both exclusions in place than with no exclusions in place, therefore the results with both exclusions more strongly supports hypothesis 1. The second thing that stands out is that in general the spread from 3.00 (neutral) has increased in the question 2 results as compared to the question 1 results. In general, this signifies that the tax professionals

believe that the factors will limit their clients less in using the tax software in the future. This could be due to any number of things such as an increase in technology or increased client faith in the software in general.

Hypothesis 3 states that on average tax professionals do not believe that many of their clients will switch to using the tax software in the next 10 years. All three weighted-averages (with and without exclusions) under the question 3 results support hypothesis 3. Overall the tax professionals disagree that their clients will switch to using the tax software in the next 10 years. Again, the spread from 3.00 is higher with both exclusions in place than without the exclusions therefore more strongly supporting hypothesis 3.

Hypothesis 4 states that on average tax return professionals are willing to help the tax software developers improve the software programs. Again all three weighted-averages under the question 4 results support hypothesis 4. In fact the average spread from 3.00 (neutral) is higher than for any other question so far, which signifies a fairly strong willingness to help the tax software developers in general. All three weighted-average spreads are fairly close (within .03) of each other; however, the spread with no exclusions is higher than with exclusions and therefore more strongly supports the hypothesis.

Hypothesis 5 states that an overall threat factor that averages the results of the survey together would show that on average tax professionals do not feel threatened by the software. Each weighted-average under both overall threat factors is less than 3.00 and support hypothesis 5. The overall threat factor that averages questions 1 through 4 is lower (or spread from 3.00 higher) than the threat factor that does not include question 4 simply because the question 4 weighted-average is lower due to stronger desire to help

software developers. Even though the overall threat factor that averages in question 4 more strongly supports hypothesis 5, this may not be a more representative measure of threat. As discussed earlier in part A of this section, whether or not professionals want to help software developers may not be a good measure of threat. Many of the individual respondents, such as respondent 130 in Exhibit IV-1, seem to fear that many of their clients would switch to using the tax software in the next 10 years, yet if they had useful information to improve the software they would be willing to share that information with the software developers. The overall threat factor that averages questions 1 through 3 may be a better measure of threat even though it supports the hypothesis less strongly than the average of questions 1 through 4.

Like the combined group hypotheses (hypotheses 1 through 5), the group comparison hypotheses (hypotheses 6 through 13) are relatively easy to test as well. The only difference in testing the group comparison hypotheses is that the two groups are compared to see which group is more or less threatened. The first three comparison hypotheses address the issue of which group more strongly agrees or disagrees that a factor presently limits or will limit their clients. Hypothesis 6 states that Big-5 tax professionals are more likely to disagree that software accessibility limits their clients than will the non Big-5 professionals both now and in the future. The results in the Group Comparison Summary (Exhibit V-20) support hypothesis 6, because the results of the software accessibility questions show that the weighted-averages are higher for the Big-5 group as compared to the non Big-5 group both now and in the future under all three groups (with & without exclusions). These results do not, however, support the idea that the Big-5 professionals are more threatened than non Big-5 professionals, it just

means that the Big-5 professionals, on average, believe that their clients have better access to the software/computers. These results make sense because one would expect that their clients would have easier access to the software, because on average the Big-5 professionals prepare tax returns for the wealthier clients. With the assumption that wealthier clients can better afford to buy good computers and accessories, they should have easier access to the tax software.

Hypothesis 7 states that Big-5 professionals more strongly agree that the software's inability to handle complex issues would be a limiting factor both now and in the future. The results of questions 1-3 and 2-3 do not support hypothesis 7. Under all three cases (without or without exclusions) the weighted-averages are generally higher for Big-5 professionals than for non Big-5 professionals. These results are not at all expected. One would think that because Big-5 clients supposedly have more complex issues than non Big-5 clients, Big-5 professionals would more strongly agree that the software's inability to handle complex issues is a limiting factor both now and in the future. The only results that partly supported Hypothesis 7 are seen with both exclusions in place, where the Big-5 professionals more strongly agree that the handling of complex issues will be a limiting factor in the future. However the results with both exclusions as a whole do not support hypothesis 7 because the hypothesis states that the condition has to hold for both now and in the future, which is not the case for the present (question 1-3).

Hypothesis 8 states that Big-5 tax professionals more strongly agree, as compared to non Big-5 professionals, that the software's inability to provide an overall sense of security will be a limiting factor both now and in the future. Overall, the results of both question 1-4 and 2-4 do not support hypothesis 8; however, the results of question 1-4

support the hypothesis in all three cases (with and without exclusions) while the results of question 2-4 do not support the hypothesis in all three cases. What is bizarre about these results is that the two groups seem to feel the future has an almost opposite impact on the software's ability to provide an overall sense of security to their clients. The Big-5 professionals seem to feel that in the future the software will be able to provide their clients more of a sense of security. This can be seen by the higher weighted-averages in all three cases which suggests that the Big-5 professionals more strongly disagree that the software's inability to provide their clients a sense of a security will be a factor in the future as compared to the present. In contrast, the non Big-5 professionals seem to feel that in the future the software will be less able to provide their clients an overall sense of security as compared to the present. This can be seen by the lower weighted-averages in all three cases which suggests that the non Big-5 professionals more strongly agree that the software's inability to provide their clients a sense of a security will be a factor in the future as compared to the present. It is strange that both groups of professionals answered in exactly the opposite direction of each other when posed with a question regarding the future. As can be seen in exhibit V-20 under the "Excluding No & Lil Sense" column, the differences between the results of questions 2-4 and 1-4 are slight for each group (less than .18). However, this could mean that on average Big-5 professionals believe their clients will have more faith in the abilities of tax software programs in the future, while non Big-5 professionals believe their clients will have less faith in the abilities of tax software programs in the future.

Hypothesis 9 states that Big-5 professionals, as compared to non Big-5 professionals, will more strongly agree that on average factors presently exist that limit

the use of the software by their clients. The average question 1 results do not support hypothesis 9 as can be seen in the Group Comparison Summary in Exhibit V-20. The higher Big-5 group question 1 averages in all 3 cases suggest that the Big-5 professionals more strongly disagree that the factors limit their clients' use of the software. The lower spread between the two groups when both exclusions (No Sense and Little Sense) are in place suggests that results with the exclusions are closer to supporting hypotheses 9 than the results without the exclusions.

Hypothesis 10 states that Big-5 professionals, as compared to non Big-5 professionals, more strongly agree that factors will exist in the future that will limit the use of the software by their clients. In all three cases, the average question 2 results do not support Hypothesis 10 just as the average question 1 results do not support Hypothesis 9. Likewise, the spread between the question 2 averages of the two groups is smaller in the results with both exclusions; therefore the results with both exclusions are closer to supporting Hypothesis 10 than the results without the exclusions.

One may argue that the reason why the average results of questions 1 and 2 do not support Hypotheses 9 and 10 is due to the larger extent that software is accessible to the Big-5 clients as compared to the non Big-5 clients. This may to some extent be true, but Hypotheses 9 and 10 were developed under the assumption that even though Big-5 professionals will more strongly disagree that access to software limit their clients (Hypothesis 6) on average, the professionals would more strongly agree that the factors limit their clients from using the software both now and in the future.

Hypothesis 11 states that Big-5 professionals, as compared to non Big-5 professionals, more strongly disagree that many of their clients will switch to using the

tax software to prepare their income tax returns within the next 10 years. The results of question 3 (remember that the assigned numbers to answers are reversed, 1 = "Strongly Disagree" and 2 = "Strongly Agree") under all 3 cases support hypothesis 11. The question 3 weighted-averages are lower for the Big-5 group than for the non Big-5 group. This means that the Big-5 professionals more strongly disagree that their clients will switch to using the tax software within the next ten years. Note that the spread between groups with both exclusions is lower than with no exclusions; therefore the results with no exclusions seem to support Hypothesis 11 more than the results with both exclusions.

Hypothesis 12 states that Big-5 professionals, as compared to non Big-5 professionals, are more willing to help the tax software developers improve the software programs. The question 4 average results in all three cases (with and without exclusions) support hypothesis 12. Notice that all the Big-5 weighted-averages are slightly lower than the respective non Big-5 weighted-averages. This means that the average Big-5 respondent is slightly more willing to help the software developers improve the personal tax software if given the chance. The differences are extremely slight; statistical analysis should help us determine whether or not the differences are significant. Notice again that the results with both the "No Sense" and "Little Sense" surveys removed show a wider spread between the groups. Again the results with both exclusions seem to support the hypothesis more than the results without the exclusions.

Hypothesis 13 states that an overall threat factor that averages the results of the survey together would show that on average Big-5 professionals feel less threatened by the tax preparation software. As can be seen in the Group Comparison Summary, both overall threat factors with exclusions support hypothesis 13. The threat factors with

exclusions are less for the Big-5 group than for the non Big-5 group. This means that overall the Big-5 group seems to be slightly less threatened than the non Big-5 group. However both overall threat factors (1 through 3 avg. and 1 through 4 avg.) with no exclusions do not support the hypothesis. The overall threat factors with no exclusions for each group are approximately equal. This implies that without excluding the "No Sense" and "Little Sense" results, both groups seem to feel about as threatened as each other. The overall threat factors with exclusions appear to better support Hypothesis 13.

As discussed before in Part A of this section, the results of question 4 may not be a good indication of how threatened a person is. I've analyzed the individual results with both exclusions (Appendix A-4) and found that 23 respondents at least agreed that many of their clients would switch to tax software (question 3 answer of 4 or 5) but still agreed that they would help the tax software designers improve the software, given they knew useful information. Part A lists several different reasons why the respondents might sensibly answer that way even though they agree that many of their clients are prone to switching to the software in the next 10 years. Because question 4 may not be a good measure of threat, I think that the average of questions 1 through 3 is a better overall measure of threat than the average of 1 through 4. Notice in the Combined Results Summary that there is approximately the same amount of spread between the two groups for both overall threat factors (avg. 1 through 3 and 1 through 4). The spread is slightly higher between the two groups for the average of questions 1 through 4.

To a large extent, the reason why both overall threat factors (with exclusions) support Hypothesis 13 is because question 3 so strongly supports Hypothesis 11, which is indicated by the large spread between the two groups for question 3. It is true that

without the question 3 results factored both overall threat factors would not support Hypothesis 13. This can easily be seen by adding up the spreads for questions 1,2, and 4; the result is a negative number (-.33), which when divided by 3 shows that there would be a negative average spread (-.11) meaning the average factor (not averaging in question 3) for the non Big-5 group would be that much lower than the factor for the Big-5 group. A negative average spread implies that the non Big-5 group is less threatened than the Big-5 group of professionals. This leads to my point that the results of question 3 are significant in determining the level of threat for each group. The results for survey question 3 provide more support for general hypothesis 2 than the results for any other question. One can argue that the best measure of threat in this survey is question 3 anyway, because it directly addresses whether or not tax professionals believe their clients will switch to using the software. If question 3 is a far superior measure of threat, then what useful information do the results of the other questions provide? This useful information from questions 1 and 2 is discussed next.

F. Other Useful Information

Both my faculty advisor and the consulting statisticians suggested that questions 1 and 2 may not be good indicators of threat, because only question 3 directly addresses whether or not a tax professional believes his or her clients are likely to switch to using the personal tax preparation software to prepare the returns themselves. For instance, just because the Big-5 professionals believe their clients have better access to the software programs/computers does not mean that they should feel more threatened. In addition, there could be other factors that the professionals feel are more limiting that were not listed in the given choices. Some other possible limiting factors are loyalty/friendly

relationships with the firm or office, laziness, luxury/status of having a well-known firm prepare one's return, and lack of spare time needed to self-prepare a return. Even though possible limiting factors were not listed, the survey results for questions 1 and 2 can give an idea of which of the listed factors each group felt were either the most or least limiting on average both now and in the future.

According to the survey results with both exclusions in Exhibit V-20, both groups (Big-5 and non Big-5) found software accessibility to be the least limiting factor both now and in the future. On average the Big-5 professionals found the inability of the software to provide an overall sense of security to be the most limiting factor both now and in the future, although inability to handle complex issues was a close second. The non Big-5 professionals found the inability of the software to handle complex issues/new tax laws to be the most limiting factor in the future and inability to provide an overall sense of security to be most limiting in the future. Overall, both groups seemed to make very similar choices as to which factors they believed to be more or less limiting.

Although on average it appears that the software does not threaten tax professionals, some tax professionals do feel threatened that many of their clients will switch to using the software. From the information in Appendix A-4 (individual data with both exclusions in place), I calculated that 30 out of the 143 professionals included (or 21%) either agreed or strongly agreed that many of their clients will switch to using a personal tax preparation software program within the next 10 years to prepare their taxes. In addition, out of the 30 professionals who agreed or strongly agreed, 7 were Big-5 professionals, which means that out of the 70 Big-5 professionals 10% either agreed or strongly agreed that many of their clients would switch to the software. This also means

that 23 out of the 73 non Big-5 professionals either agreed or strongly agreed that many of their clients would switch to the software.

G. Statistical Analysis

After performing the preliminary analysis of the data, my project advisor and I met with Robert Leighty who is the manager of the Statistical Consulting Lab at the Ohio State University. I gave Mr. Leighty all of the data I had compiled so far, which at the time were Sections IV and V excluding this subsection and subsection F. After reviewing the data, Mr. Leighty suggested that the question average data that I had calculated was probably not necessary nor very informative because it averaged data that did not correlate. We agreed that the statistical analysis should analyze results for each individual question including separate overall factor results (1-1 through 1-5 & 2-1 through 2-5).

Subharup Guha, a graduate student of statistical sciences, performed the statistical analysis and prepared the report shown in Appendix A-5. As described in the report, Subharup first compared each group's results with neutral or 3. The results suggest that Big-5 professionals are not threatened that their clients might switch, whereas non Big-5 professionals are closer to neutral on this question. Subharup also found the data to support that both groups: are willing to share information with the software designers (question 4), agree that the software program's inability to handle complex issues/new tax laws (question 1-3 and 2-3) is a limiting factor, and agree that the software's inability to provide an overall sense of security (1-4 and 2-4) is also a limiting factor. This data support the first four combined group hypotheses. Because these data support combined group hypothesis 3, the data directly support the first general hypothesis.

Subharup next compared differences between the two groups and corrected for over dispersion due to possible correlated responses of professionals working in the same company/office. Subharup found that significant statistical differences do exist between both groups concerning the results for question 3 and the access to computer/software questions (1-1, 1-2, 2-1, and 2-2). The results therefore strongly support group comparison hypothesis 6 (software accessibility) and hypothesis 11 (client switching). Subharup ran the tests initially with no exclusions/including outliers then reran the test with both exclusions/excluding outliers. Subharup found that the findings were consistent when excluding outliers but the differences in means were smaller than when including the outliers. Because hypothesis 11 directly addresses general hypothesis 2, the statistical results support general hypothesis 2.

VI. Conclusion

A. The Three Questions

The purpose of this research project, as stated in the Introduction section, is to answer three questions. According to the findings in section V (subsections E & G), which support general hypothesis 1, the answer to the first question is: no, tax professionals, on average, do not feel threatened that their clients might switch to using personal tax preparation software programs to self-prepare their returns. However, some of the tax professionals do feel threatened, as mentioned in subsection F of section V.

According to the findings in section V (subsections E and G), which support general hypothesis 2, the answer to the second question is: yes, non Big-5 professionals do feel more threatened than Big-5 professionals that many of their clients will switch to using the software. However, I can conclude from the information in subsection F of section V that there are professionals in both groups who feel threatened.

According to the trends data of section II, the answer to the third question is: no, tax professionals on average should not be worried that their clients will switch over to the using personal tax preparation software within the next 10 years. Although the percent of on-line/computer households has been increasing and the percent of individuals who self prepare their returns electronically has doubled since 1999, the data also show increasing trends in: tax return preparation fees, the total number of tax filers/labor force, and the number of tax return professionals. In addition, the percent of total returns prepared by professionals has most likely either remained the same or increased since 1997.

B. Additional Insight

Although some of the data collected in this research from survey questions 1, 2, and 3 may not directly support the general hypotheses, this data do provide additional insight and conclusions. The additional conclusions from subsection G of section V are: both groups (Big-5 & non Big-5) on average would help software designers improve the software and both groups agree that the software's inability to handle complex issues and provide an overall sense of security limits client use of the software. Another additional conclusion is that Big-5 professionals feel that access to a computer/software program is less of a limiting factor for their clients compared to non Big-5 clients.

C. Improvements for Future Research

Throughout this research project, I have thought of ways that the survey could be improved upon if someone were to continue this research in the future. One way to improve the survey would be to ensure that all of the survey questions are consistent. One possible discrepancy of my survey questions is that survey questions 1 and 2 refer to factors that limit or will limit a "majority" of the respondent's clients, whereas question 3 asks whether the respondent agrees or disagrees that "many" of his or her clients will switch to using the software. Some of the respondents may have noticed the different word usage and believed that some of the factors limited a majority of their clients from using the software, but they still believed that many, although less than a majority, would still switch. This means that I may have incorrectly classified a few of the responses as "No Sense" responses, when in reality the respondents understood the questions and were correctly answering them. Although I believe that probably some of the respondents did

not understand the questions and did not answer the questions consistently, it is hard for me to determine their true intentions after seeing my own inconsistent choice of words.

Another way that the survey could possibly be improved upon is to further split up the non Big-5 group into two groups: one group made up of tax professionals from non Big-5 accounting firms and the other group made up of tax office professionals (H&R Block, Jackson Hewitt, etc.) that specialize in individual income tax returns primarily for low to mid-income people. One problem of having two groups (Big-5 and non Big-5) as I have now is that the non Big-5 group includes firms, such as Grant Thornton LLP, whose clients probably make well over $150,000 per year and probably more closely resemble Big-5 clients than the average H&R Block client. However, there is another problem of dividing up the surveys in terms of types of companies. Many companies do not have homogeneous clients who all make a certain amount of income. For instance according to its 2000 10-K SEC filing, H&R Block has 555 H&R Block premium offices in addition to its regular tax offices. The H&R Block premium offices are designed to appeal to taxpayers with more complicated returns and probably higher incomes. I sent 20 surveys to an H&R Block district manager in Columbus, who said that he would drop off surveys at various offices. It's possible that the district manager passed out surveys to professionals working in one of the H&R Block premium offices, which would have skewed my data. Because not all companies are homogeneous, dividing up companies into various groups may not be the most accurate way to divide professionals into groups as to the types of clients they serve.

A more accurate way to divide up the groups would be to ask the tax professionals how much income their average clients make. However, asking tax professionals such an

open-ended question may aversely effect the response rate. My project advisor advised me not to use open-ended questions, if possible. Recently, I came up with a solution that would probably solve these problems and make for more accurate and informative survey results. When making up the survey, one might add a question such as:

> Which category would the average adjusted gross income of your clients most likely fall into:
> A) less than $40,000 B) $40,000 to $150,000 C) greater than $150,000

The rest of the survey could still have questions similar to the questions I've asked in my survey (See Exhibit IV-1). One may even want to combine the limiting factor questions (questions 1 and 2) to have the questions include both the present and the future, much like question 3 does with the phrase "within the next 10 years." This combination would allow one to add the additional question above on client income, as well as add additional possible limiting factors such as those listed in subsection F of section V. Another advantage of structuring the survey this way is it would allow for the direct testing of Mr. Gardner's assertion that the tax software only makes sense for people within a certain income range (Aley, Martin, and Spiers 1994).

VII. Appendices

Appendix A-1: SIC Industry Group 729 (Page 1 of 2)

OSHA Occupational Safety & Health Administration
U.S. Department of Labor

SIC Description for *7291*

Division I: *Services*
Major Group 72: *Personal Services*

Industry Group 729: *Miscellaneous Personal Services*

7291 Tax Return Preparation Services

Establishments primarily engaged in providing tax return preparation services without also providing accounting, auditing, or bookkeeping services. Establishments engaged in providing income tax return preparation services which also provide accounting, auditing, or bookkeeping services are classified in Industry 8721.

- Income tax return preparation services without accounting, auditing,
- Tax return preparation services without accounting, auditing, or

[SIC Search | Division Structure | Major Group Structure | OSHA Standards Cited]

[Comments & Info | OSHA Home Page | OSHA-OCIS | US DOL Web Site | Disclaimer]

OSHA Occupational Safety & Health Administration
U.S. Department of Labor

SIC Description for *7299*

Division I: *Services*
Major Group 72: *Personal Services*

Industry Group 729: *Miscellaneous Personal Services*

7299 Miscellaneous Personal Services, Not Elsewhere Classified

Establishments primarily engaged in providing personal services, not elsewhere classified. Establishments primarily engaged in operating physical fitness facilities, including health fitness spas and reducing salons, are classified in Major Group 70 if they provide lodging and in Industry 7991 if they do not, and those renting medical equipment are classified in Industry 7352.

- Babysitting bureaus
- Bartering services for individuals
- Birth certificate agencies
- Blood pressure testing, coin-operated
- Buyers' clubs
- Car title and tag service
- Checkroom concessions or services
- Clothing rental, except industrial launderers and linen supply
- Coin-operated service machine operation: scales, shoeshine, lockers,
- College clearinghouses
- Comfort station operation
- Computer photography or portraits
- Consumer buying service
- Costume rental
- Dating service
- Debt counseling or adjustment service to individuals
- Depilatory salons
- Diet workshops
- Dress suit rental
- Electrolysis (hair removal)
- Escort service
- Genealogical investigation service
- Hair removal (electrolysis)
- Hair weaving or replacement service
- Locker rental, except cold storage
- Marriage bureaus
- Massage parlors
- Porter service
- Quilting for individuals
- Rest room operation
- Scalp treatment service
- Shopping service for individuals

Appendix A-2: Individual Data Entry with No Exclusions (Page 1 of 4)

		1=Strongly Agree, 5=Strongly Disagree (Reverse Ques. 3)														
	1=Big 5..... 2=Non Big-5	1-1	1-2	1-3	1-4	1-5	2-1	2-2	2-3	2-4	2-5	3	4	Notes	Little Sense	No Sense
Resp. 1	1	1	1	2	5	4	5	5	2	5	5	1	2	Yes		
Resp. 2	1	4	4	2	2	4	4	4	2	2	4	2	4			
Resp. 3	1	4	4	2	2	3	5	5	3	3	3	1	1			
Resp. 4	1	2	2	4	4	4	4	4	4	4	4	2	2		Yes	
Resp. 5	1	5	5	1	1	2	5	5	1	1	2	2	5			
Resp. 6	1	4	4	2	2	2	5	5	3	2	3	2	4			
Resp. 7	1	5	5	5	5	5	5	5	5	5	5	1	2		Yes	
Resp. 8	1	4	4	4	2	2	5	4	3	3	3	2	4			
Resp. 9	1	3	3	3	3	3	3	3	3	3	1	3	2			
Resp. 10	1	5	5	2	1	3	5	5	2	1	3	1	2			
Resp. 11	1	4	4	2	2	3	4	4	3	3	3	2	2			
Resp. 12	1	4	3	1	1	2	4	4	2	3	3	2	2			
Resp. 13	1	4	3	2	1	3	5	5	4	1	3	2	2			
Resp. 14	1	4	3	5	5	3	5	4	4	4	5	1	2		Yes	
Resp. 15	1	5	5	4	3	4	5	5	5	4	4	2	4		Yes	
Resp. 16	1	2	2	2	2	2	5	5	2	2	4	1	2			
Resp. 17	1	2	2	4	2	2	4	4	2	2	4	3	2			
Resp. 18	1	1	1	2	3	2	3	3	3	3	5	5	1			
Resp. 19	1	5	5	5	5	5	5	5	5	5	5	2	2		Yes	
Resp. 20	1	4	4	1	2	3	4	4	1	2	3	2	3			
Resp. 21	1	5	5	2	2	3	5	5	2	2	5	3	3			
Resp. 22	1	3	3	2	2	2	5	5	2	4	4	3	4			
Resp. 23	1	2	4	3	2	3	2	3	2	2	2	4	1			
Resp. 24	1	3	3	2	3	3	3	3	3	3	3	2	2			
Resp. 25	1	1	1	3	2	2	1	1	3	2	2	1	1			
Resp. 26	1	5	5	4	4	4	5	5	4	4	4	2	2		Yes	
Resp. 27	1	4	4	4	4	3	5	5	4	4	4	2	3		Yes	
Resp. 28	1	4	4	4	4	3	4	4	4	4	4	2	2		Yes	
Resp. 29	1	4	4	2	2	4	4	4	2	2	4	2	2			
Resp. 30	1	1	2	2	2	2	1	2	2	2	2	2	3			
Resp. 31	1	4	5	1	1	3	4	5	1	1	4	2	4			
Resp. 32	1	4	4	1	1	3	5	4	3	4	3	3	3			
Resp. 33	1	4	4	2	3	3	4	4	2	3	3	2	2			
Resp. 34	1	5	5	3	3	2	5	5	3	3	2	2	2			
Resp. 35	1	5	5	1	1	1	5	5	2	3	2	5	2			
Resp. 36	1	5	4	4	2	4	5	5	4	2	4	2	2			
Resp. 37	1	2	2	2	2	3	2	2	2	2	3	2	2			
Resp. 38	1	4	4	2	1	2	5	5	2	2	3	1	2			
Resp. 39	1	4	3	1	5	3	5	1	1	3	1	1	2			
Resp. 40	1	4	4	2	1	2	5	4	4	2	2	2	2			
Resp. 41	1	5	5	5	4	5	5	5	5	4	5	1	1		Yes	
Resp. 42	1	5	4	3	2	2	5	4	4	2	3	2	2			
Resp. 43	1	5	4	2	1	3	5	5	2	2	4	2	3			
Resp. 44	1	4	3	1	1	1	4	4	2	1	2	2	3			
Resp. 45	1	5	5	2	1	4	5	5	4	1	5	2	2			
Resp. 46	1	5	2	4	4	2	5	3	4	3	4	2	2			
Resp. 47	1	1	1	1	2	4	1	1	1	1	2	2	1			
Resp. 48	1	4	4	1	1	1	5	5	2	2	2	2	1			
Resp. 49	1	4	4	2	2	2	5	5	4	4	3	2	2		Yes	
Resp. 50	1	3	4	4	2	4	5	5	2	2	4	2	2			
Resp. 51	1	3	2	2	2	3	4	4	2	3	3	2	3			
Resp. 52	1	5	4	1	1	3	5	5	1	1	3	1	1			

Appendix A-2: Individual Data Entry with No Exclusions (Page 2 of 4)

		1=Strongly Agree, 5=Strongly Disagree (Reverse Ques. 3)														
	1=Big 5..... 2=Non Big-5	1-1	1-2	1-3	1-4	1-5	2-1	2-2	2-3	2-4	2-5	3	4	Notes	Little Sense	No Sense
Resp. 53	1	4	4	2	3	3	4	4	2	3	3	2	2			
Resp. 54	1	4	4	4	2	3	4	4	4	2	3	2	2			
Resp. 55	1	4	4	1	2	5	4	4	2	2	3	1	3			
Resp. 56	1	3	3	2	4	4	4	4	2	4	4	2	2			
Resp. 57	1	2	2	1	1	1	5	4	3	2	4	1	1			
Resp. 58	1	1	1	1	1	1	1	1	1	1	1	1	1			
Resp. 59	1	1	2	1	2	2	2	2	1	2	2	1	2			
Resp. 60	1	5	5	2	4	2	5	5	3	3	2	2	2			
Resp. 61	1	4	4	4	4	2	4	4	4	4	2	4	2			
Resp. 62	1	5	5	5	1	5	5	5	5	1	5	1	2			
Resp. 63	1	5	5	1	1	1	5	5	1	1	1	2	3			
Resp. 64	1	5	4	2	3	2	5	5	2	3	3	1	2			
Resp. 65	1	4	4	2	2	2	5	4	3	3	3	2	3			
Resp. 66	1	4	5	2	1	4	5	5	2	2	4	2	2			
Resp. 67	1	2	2	1	2	3	4	4	2	2	4	2	2			
Resp. 68	1	1	2	3	2	2	2	2	2	2	2	4	2			Yes
Resp. 69	1	5	4	2	3	3	5	5	3	3	4	2	2		Yes	
Resp. 70	1	4	3	4	1	4	4	4	4	1	4	1	2			
Resp. 71	1	4	4	2	1	4	4	4	1	1	4	2	3			
Resp. 72	1	4	4	4	2	2	4	4	1	1	2	1	2			
Resp. 73	1	5	4	3	2	2	5	5	3	2	3	2	3			
Resp. 74	1	5	5	2	2	4	5	5	2	2	4	2	1			
Resp. 75	1	5	5	2	2	4	5	5	3	3	5	4	1			
Resp. 76	1	5	3	1	3	3	5	5	3	3	3	2	2			
Resp. 77	1	3	3	2	2	3	4	4	4	2	3	2	2			
Resp. 78	1	4	4	2	3	2	5	5	2	4	3	1	2			
Resp. 79	1	5	5	1	2	5	5	5	1	2	5	1	2	Yes		
Resp. 80	1	1	2	1	1	1	1	1	1	1	1	5	1			Yes
Resp. 81	1	5	5	5	5	5	5	5	5	5	5	1	3		Yes	
Resp. 82	2	3	4	4	2	5	5	5	3	5	5	2	1		Yes	
Resp. 83	2	4	2	3	4	2	5	4	4	4	4	1	1		Yes	
Resp. 84	2	1	1	4	4	3	5	5	5	5	5	2	2		Yes	
Resp. 85	2	5	5	2	1	4	5	5	2	1	4	1	2	Yes		
Resp. 86	2	3	3	2	1	2	4	4	3	2	2	2	3			
Resp. 87	2	5	5	2	1	2	5	5	3	2	4	2	1			
Resp. 88	2	1	1	3	1	1	3	3	2	1	2	3	2			
Resp. 89	2	5	5	1	1	2	5	5	1	1	2	1	1			
Resp. 90	2	3	2	4	2	1	4	4	4	2	1	2	1			
Resp. 91	2	5	5	2	2	4	5	5	2	2	4	1	2			
Resp. 92	2	1	1	1	1	1	1	1	1	1	1	4	3			Yes
Resp. 93	2	1	1	2	2	1	1	1	1	1	1	4	2			Yes
Resp. 94	2	1	2	3	4	4	2	2	2	4	4	4	3			
Resp. 95	2	4	4	1	1	3	5	5	1	1	3	1	3			
Resp. 96	2	3	4	4	3	4	4	4	4	2	4	2	4			
Resp. 97	2	5	4	2	2	4	5	4	2	2	4	4	2			
Resp. 98	2	2	2	1	2	1	4	2	3	2	2	3	3			
Resp. 99	2	4	4	2	2	2	5	5	5	5	5	4	2			
Resp. 100	2	3	3	2	1	1	4	4	2	1	1	3	2			
Resp. 101	2	1	2	3	2	1	1	2	3	2	1	2	1			
Resp. 102	2	1	1	1	3	2	1	1	1	3	2	2	2			
Resp. 103	2	3	3	3	4	4	3	3	2	2	3	5	3			
Resp. 104	2	2	2	1	1	2	4	4	2	3	4	2	5			

Appendix A-2: Individual Data Entry with No Exclusions (Page 3 of 4)

		1=Strongly Agree, 5=Strongly Disagree (Reverse Ques. 3)														
	1=Big 5..... 2=Non Big-5	1-1	1-2	1-3	1-4	1-5	2-1	2-2	2-3	2-4	2-5	3	4	Notes	Little Sense	No Sense
Resp. 105	2	4	4	4	2	3	5	5	5	1	3	1	5			
Resp. 106	2	4	4	1	2	3	4	4	2	1	3	2	1			
Resp. 107	2	5	4	1	3	3	5	4	1	3	3	1	1			
Resp. 108	2	4	4	2	4	2	4	4	2	4	2	2	2			
Resp. 109	2	5	4	1	3	2	5	5	1	3	3	4	3			
Resp. 110	2	5	5	2	2	4	5	5	1	3	4	2	2			
Resp. 111	2	2	2	2	4	3	4	4	3	3	3	4	2			
Resp. 112	2	1	1	1	1	2	1	1	1	1	2	2	4			
Resp. 113	2	1	1	1	3	2	1	1	1	3	2	2	3			
Resp. 114	2	1	1	1	2	1	1	1	2	2	2	2	2			
Resp. 115	2	1	2	2	3	2	1	2	1	2	3	5	3			Yes
Resp. 116	2	1	2	1	3	1	1	1	1	3	1	5	2			Yes
Resp. 117	2	1	1	1	1	1	1	1	1	1	1	4	3			Yes
Resp. 118	2	2	1	2	3	2	1	2	2	3	2	4	3			Yes
Resp. 119	2	2	1	1	5	1	5	5	2	2	1	2	3			
Resp. 120	2	5	5	2	2	4	5	5	2	2	4	2	2			
Resp. 121	2	2	3	2	3	3	2	2	2	3	3	2	2			
Resp. 122	2	1	1	1	2	2	1	2	2	3	2	4	3			Yes
Resp. 123	2	5	5	2	3	3	5	5	3	2	3	2	3			
Resp. 124	2	3	4	2	3	4	4	4	4	3	3	2	2			
Resp. 125	2	4	4	1	2	3	5	5	2	2	4	1	2			
Resp. 126	2	4	4	4	5	4	4	4	4	4	4	2	3		Yes	
Resp. 127	2	5	3	5	4	3	3	4	4	4	4	1	3		Yes	
Resp. 128	2	2	2	4	4	3	2	2	4	4	3	2	2			
Resp. 129	2	2	4	4	3	4	4	4	5	3	4	1	1		Yes	
Resp. 130	2	5	4	4	4	5	5	5	4	4	5	4	2			
Resp. 131	2	4	4	2	2	4	5	5	2	2	4	4	2			
Resp. 132	2	2	2	1	3	2	4	4	2	2	2	2	1			
Resp. 133	2	1	3	1	2	3	1	3	1	2	3	2	2			
Resp. 134	2	2	2	1	1	3	4	4	1	1	4	2	3			
Resp. 135	2	4	4	3	2	2	5	5	4	2	3	2	5			
Resp. 136	2	1	1	4	4	4	4	4	4	4	4	5	4			
Resp. 137	2	2	2	3	2	1	4	4	4	2	3	2	3			
Resp. 138	2	5	4	3	2	3	5	5	3	2	3	2	2			
Resp. 139	2	5	5	1	2	2	5	5	1	2	2	2	2			
Resp. 140	2	2	1	1	2	3	4	4	2	2	3	3	2			
Resp. 141	2	1	1	2	2	2	1	2	3	2	2	5	1			Yes
Resp. 142	2	4	4	2	2	3	4	4	3	3	3	3	3			
Resp. 143	2	4	4	3	4	4	5	5	3	4	4	2	2		Yes	
Resp. 144	2	2	2	1	3	2	4	4	2	3	3	2	3			
Resp. 145	2	4	4	2	1	1	4	4	3	1	2	1	2			
Resp. 146	2	3	4	2	2	2	3	3	1	1	1	5	1			
Resp. 147	2	3	4	4	2	2	2	2	4	2	1	3	3			
Resp. 148	2	2	2	1	2	1	3	3	2	1	3	4	2			
Resp. 149	2	2	3	2	4	1	4	4	2	1	1	5	1			
Resp. 150	2	2	4	2	2	2	2	3	2	1	2	4	2			
Resp. 151	2	1	2	3	2	2	3	2	1	2	2	4	1			Yes
Resp. 152	2	2	1	1	4	3	2	2	2	2	2	4	1			
Resp. 153	2	2	3	2	2	1	2	1	2	2	2	4	1			Yes
Resp. 154	2	4	4	2	2	3	5	5	2	2	3	3	2			
Resp. 155	2	2	1	3	2	2	3	2	2	2	3	4	1			
Resp. 156	2	2	2	1	2	3	2	3	1	2	3	4	1			

Appendix A-2: Individual Data Entry with No Exclusions (Page 4 of 4)

	1=Big 5..... 2=Non Big-5	1-1	1-2	1-3	1-4	1-5	2-1	2-2	2-3	2-4	2-5	3	4	Notes	Little Sense	No Sense
Resp. 157	2	1	1	1	2	1	5	5	1	2	2	3	1			
Resp. 158	2	1	1	2	3	2	2	2	2	2	1	5	2			Yes
Resp. 159	2	2	1	1	1	1	5	4	3	2	3	3	1			
Resp. 160	2	2	2	4	3	3	2	2	4	3	3	2	2			
Resp. 161	2	1	1	1	2	2	1	1	1	1	1	4	1			Yes
Resp. 162	2	2	3	1	2	4	3	2	2	1	3	3	2			
Resp. 163	2	2	2	1	3	3	4	4	2	1	2	4	3			
Resp. 164	2	2	2	1	2	2	2	3	3	1	3	4	2			
Resp. 165	2	1	1	2	1	3	1	1	4	2	3	2	2			
Resp. 166	2	4	4	1	2	3	5	5	4	4	4	4	3			
Resp. 167	2	3	3	3	3	3	3	3	3	3	3	4	2			
Resp. 168	2	2	2	3	3	3	2	2	2	2	2	4	3			
Resp. 169	2	2	4	2	2	3	3	2	3	2	2	4	2			
Resp. 170	2	2	2	5	2	2	4	4	5	2	2	2	3			
Resp. 171	2	5	4	2	4	3	5	5	2	2	3	3	2			
Resp. 172	2	3	3	4	2	4	4	4	3	3	4	2	3			
Resp. 173	2	2	2	3	3	3	2	2	3	3	2	4	2			
Resp. 174	1	5	1	5	5	2	5	4	5	5	4	5	1			
Resp. 175	1	1	1	1	1	2	1	1	1	1	2	4	3			Yes
Resp. 176	1	4	4	1	1	3	5	5	2	1	4	2	3			
Resp. 177	1	5	5	1	5	1	5	5	1	1	1	4	1			
Big 5:	**Result Summary**															
# Surveyed:	104															
# Respond:	85															
Resp Rate:	81.73%															
# Included:	85															
% Included:	100.00%															
# No sense:	3															
# Lil sense:	12															
Choice (1-5)	**Questions:**	**1-1**	**1-2**	**1-3**	**1-4**	**1-5**	**2-1**	**2-2**	**2-3**	**2-4**	**2-5**	**3**	**4**			
1	# Answered:	10	7	23	24	8	6	6	15	18	6	22	15			
2	# Answered:	7	12	34	33	27	4	4	30	29	16	48	47			
3	# Answered:	7	12	7	11	27	3	5	17	20	26	5	16			
4	# Answered:	32	33	14	9	16	22	29	16	13	25	6	6			
5	# Answered:	29	21	7	8	7	50	41	7	5	12	4	1			
	Total:	85	85	85	85	85	85	85	85	85	85	85	85			
	Weighted #:	3.7	3.6	2.4	2.3	2.8	4.2	4.1	2.6	2.5	3.2	2.1	2.2			
Non Big 5:																
# Surveyed:	142															
# Respond:	92															
Resp Rate:	64.79%															
# Included:	92															
% Included:	100.00%															
# No sense:	12															
# Lil sense:	7															
Choice (1-5)	**Questions:**	**1-1**	**1-2**	**1-3**	**1-4**	**1-5**	**2-1**	**2-2**	**2-3**	**2-4**	**2-5**	**3**	**4**			
1	# Answered:	22	22	33	15	18	16	11	21	21	13	11	21			
2	# Answered:	29	23	30	41	28	13	19	33	39	25	35	39			
3	# Answered:	11	11	14	20	28	10	9	18	19	30	11	26			
4	# Answered:	15	28	13	14	16	24	28	15	10	20	27	3			
5	# Answered:	15	8	2	2	2	29	25	5	3	4	8	3			
	Total:	92	92	92	92	92	92	92	92	92	92	92	92			
	Weighted #:	2.7	2.8	2.1	2.4	2.5	3.4	3.4	2.5	2.3	2.8	2.8	2.2			

Appendix A-3: Individual Data Entry – Excluding No Sense (Page 1 of 4)

		1=Strongly Agree, 5=Strongly Disagree (Reverse Ques. 3)														
	1=Big 5..... 2=Non Big-5	1-1	1-2	1-3	1-4	1-5	2-1	2-2	2-3	2-4	2-5	3	4	Notes	Little Sense	No Sense
Resp. 1	1	1	1	2	5	4	5	5	2	5	5	1	2	Yes		
Resp. 2	1	4	4	2	2	4	4	4	2	2	4	2	4			
Resp. 3	1	4	4	2	2	3	5	5	3	3	3	1	1			
Resp. 4	1	2	2	4	4	4	4	4	4	4	4	2	2		Yes	
Resp. 5	1	5	5	1	1	2	5	5	1	1	2	2	5			
Resp. 6	1	4	4	2	2	2	5	5	3	2	3	2	4			
Resp. 7	1	5	5	5	5	5	5	5	5	5	5	1	2		Yes	
Resp. 8	1	4	4	4	2	2	5	4	3	3	3	2	4			
Resp. 9	1	3	3	3	3	3	3	3	3	3	1	3	2			
Resp. 10	1	5	5	2	1	3	5	5	2	1	3	1	2			
Resp. 11	1	4	4	2	2	3	4	4	3	3	3	2	2			
Resp. 12	1	4	3	1	1	2	4	4	2	3	3	2	2			
Resp. 13	1	4	3	2	1	3	5	5	4	1	3	2	2			
Resp. 14	1	4	3	5	5	3	5	4	4	4	5	1	2		Yes	
Resp. 15	1	5	5	4	3	4	5	5	5	4	4	2	4		Yes	
Resp. 16	1	2	2	2	2	2	5	5	2	2	4	1	2			
Resp. 17	1	2	2	4	2	2	4	4	2	2	4	3	2			
Resp. 18	1	1	1	2	3	2	3	3	3	3	5	5	1			
Resp. 19	1	5	5	5	5	5	5	5	5	5	5	2	2		Yes	
Resp. 20	1	4	4	1	2	3	4	4	1	2	3	2	3			
Resp. 21	1	5	5	2	2	3	5	5	2	2	5	3	3			
Resp. 22	1	3	3	2	2	2	5	5	2	4	4	3	4			
Resp. 23	1	2	4	3	2	3	2	3	2	2	2	4	1			
Resp. 24	1	3	3	2	3	3	3	3	3	3	3	2	2			
Resp. 25	1	1	1	3	2	2	1	1	3	2	2	1	1			
Resp. 26	1	5	5	4	4	4	5	5	4	4	4	2	2		Yes	
Resp. 27	1	4	4	4	4	3	5	5	4	4	4	2	3		Yes	
Resp. 28	1	4	4	4	4	3	4	4	4	4	4	2	2		Yes	
Resp. 29	1	4	4	2	2	4	4	4	2	2	4	2	2			
Resp. 30	1	1	2	2	2	2	1	2	2	2	2	2	3			
Resp. 31	1	4	5	1	1	3	4	5	1	1	4	2	4			
Resp. 32	1	4	4	1	1	3	5	4	3	4	3	3	3			
Resp. 33	1	4	4	2	3	3	4	4	2	3	3	2	2			
Resp. 34	1	5	5	3	3	2	5	5	3	3	2	2	2			
Resp. 35	1	5	5	1	1	1	5	5	2	3	2	5	2			
Resp. 36	1	5	4	4	2	4	5	5	4	2	4	2	2			
Resp. 37	1	2	2	2	2	3	2	2	2	2	3	2	2			
Resp. 38	1	4	4	2	1	2	5	5	2	2	3	1	2			
Resp. 39	1	4	3	1	5	3	5	1	1	3	1	1	2			
Resp. 40	1	4	4	2	1	2	5	4	4	2	2	2	2			
Resp. 41	1	5	5	5	4	5	5	5	5	4	5	1	1		Yes	
Resp. 42	1	5	4	3	2	2	5	4	4	2	3	2	2			
Resp. 43	1	5	4	2	1	3	5	5	2	2	4	2	3			
Resp. 44	1	4	3	1	1	1	4	4	2	1	2	2	3			
Resp. 45	1	5	5	2	1	4	5	5	4	1	5	2	2			
Resp. 46	1	5	2	4	4	2	5	3	4	3	4	2	2			
Resp. 47	1	1	1	1	2	4	1	1	1	1	2	2	1			
Resp. 48	1	4	4	1	1	1	5	5	2	2	2	2	1			
Resp. 49	1	4	4	2	2	2	5	5	4	4	3	2	2		Yes	
Resp. 50	1	3	4	4	2	4	5	5	2	2	4	2	2			
Resp. 51	1	3	2	2	2	3	4	4	2	3	3	2	3			
Resp. 52	1	5	4	1	1	3	5	5	1	1	3	1	1			

Appendix A-3: Individual Data Entry – Excluding No Sense (Page 2 of 4)

		1=Strongly Agree, 5=Strongly Disagree (Reverse Ques. 3)														
	1=Big 5..... 2=Non Big-5	1-1	1-2	1-3	1-4	1-5	2-1	2-2	2-3	2-4	2-5	3	4	Notes	Little Sense	No Sense
Resp. 53	1	4	4	2	3	3	4	4	2	3	3	2	2			
Resp. 54	1	4	4	4	2	3	4	4	4	2	3	2	2			
Resp. 55	1	4	4	1	2	5	4	4	2	2	3	1	3			
Resp. 56	1	3	3	2	4	4	4	4	2	4	4	2	2			
Resp. 57	1	2	2	1	1	1	5	4	3	2	4	1	1			
Resp. 58	1	1	1	1	1	1	1	1	1	1	1	1	1			
Resp. 59	1	1	2	1	2	2	2	2	1	2	2	1	2			
Resp. 60	1	5	5	2	4	2	5	5	3	3	2	2	2			
Resp. 61	1	4	4	4	4	2	4	4	4	4	2	4	2			
Resp. 62	1	5	5	5	1	5	5	5	5	1	5	1	2			
Resp. 63	1	5	5	1	1	1	5	5	1	1	1	2	3			
Resp. 64	1	5	4	2	3	2	5	5	2	3	3	1	2			
Resp. 65	1	4	4	2	2	2	5	4	3	3	3	2	3			
Resp. 66	1	4	5	2	1	4	5	5	2	2	4	2	2			
Resp. 67	1	2	2	1	2	3	4	4	2	2	4	2	2			
Resp. 68																
Resp. 69	1	5	4	2	3	3	5	5	3	3	4	2	2		Yes	
Resp. 70	1	4	3	4	1	4	4	4	4	1	4	1	2			
Resp. 71	1	4	4	2	1	4	4	4	1	1	4	2	3			
Resp. 72	1	4	4	4	2	2	4	4	1	1	2	1	2			
Resp. 73	1	5	4	3	2	2	5	5	3	2	3	2	3			
Resp. 74	1	5	5	2	2	4	5	5	2	2	4	2	1			
Resp. 75	1	5	5	2	2	4	5	5	3	3	5	4	1			
Resp. 76	1	5	3	1	3	3	5	5	3	3	3	2	2			
Resp. 77	1	3	3	2	2	3	4	4	4	2	3	2	2			
Resp. 78	1	4	4	2	3	2	5	5	2	4	3	1	2			
Resp. 79	1	5	5	1	2	5	5	5	1	2	5	1	2	Yes		
Resp. 80																
Resp. 81	1	5	5	5	5	5	5	5	5	5	5	1	3		Yes	
Resp. 82	2	3	4	4	2	5	5	5	3	5	5	2	1		Yes	
Resp. 83	2	4	2	3	4	2	5	4	4	4	4	1	1		Yes	
Resp. 84	2	1	1	4	4	3	5	5	5	5	5	2	2		Yes	
Resp. 85	2	5	5	2	1	4	5	5	2	1	4	1	2	Yes		
Resp. 86	2	3	3	2	1	2	4	4	3	2	2	2	3			
Resp. 87	2	5	5	2	1	2	5	5	3	2	4	2	1			
Resp. 88	2	1	1	3	1	1	3	3	2	1	2	3	2			
Resp. 89	2	5	5	1	1	2	5	5	1	1	2	1	1			
Resp. 90	2	3	2	4	2	1	4	4	4	2	1	2	1			
Resp. 91	2	5	5	2	2	4	5	5	2	2	4	1	2			
Resp. 92																
Resp. 93																
Resp. 94	2	1	2	3	4	4	2	2	2	4	4	4	3			
Resp. 95	2	4	4	1	1	3	5	5	1	1	3	1	3			
Resp. 96	2	3	4	4	3	4	4	4	4	2	4	2	4			
Resp. 97	2	5	4	2	2	4	5	4	2	2	4	4	2			
Resp. 98	2	2	2	1	2	1	4	2	3	2	2	3	3			
Resp. 99	2	4	4	2	2	2	5	5	5	5	5	4	2			
Resp. 100	2	3	3	2	1	1	4	4	2	1	1	3	2			
Resp. 101	2	1	2	3	2	1	1	2	3	2	1	2	1			
Resp. 102	2	1	1	1	3	2	1	1	1	3	2	2	2			
Resp. 103	2	3	3	3	4	4	3	3	2	2	3	5	3			
Resp. 104	2	2	2	1	1	2	4	4	2	3	4	2	5			

Appendix A-3: Individual Data Entry – Excluding No Sense (Page 3 of 4)

		1=Strongly Agree, 5=Strongly Disagree (Reverse Ques. 3)														
	1=Big 5..... 2=Non Big-5	1-1	1-2	1-3	1-4	1-5	2-1	2-2	2-3	2-4	2-5	3	4	Notes	Little Sense	No Sense
Resp. 105	2	4	4	4	2	3	5	5	5	1	3	1	5			
Resp. 106	2	4	4	1	2	3	4	4	2	1	3	2	1			
Resp. 107	2	5	4	1	3	3	5	4	1	3	3	1	1			
Resp. 108	2	4	4	2	4	2	4	4	2	4	2	2	2			
Resp. 109	2	5	4	1	3	2	5	5	1	3	3	4	3			
Resp. 110	2	5	5	2	2	4	5	5	1	3	4	2	2			
Resp. 111	2	2	2	2	4	3	4	4	3	3	3	4	2			
Resp. 112	2	1	1	1	1	2	1	1	1	1	2	2	4			
Resp. 113	2	1	1	1	3	2	1	1	1	3	2	2	3			
Resp. 114	2	1	1	1	2	1	1	1	2	2	2	2	2			
Resp. 115																
Resp. 116																
Resp. 117																
Resp. 118																
Resp. 119	2	2	1	1	5	1	5	5	2	2	1	2	3			
Resp. 120	2	5	5	2	2	4	5	5	2	2	4	2	2			
Resp. 121	2	2	3	2	3	3	2	2	2	3	3	2	2			
Resp. 122																
Resp. 123	2	5	5	2	3	3	5	5	3	2	3	2	3			
Resp. 124	2	3	4	2	3	4	4	4	4	3	3	2	2			
Resp. 125	2	4	4	1	2	3	5	5	2	2	4	1	2			
Resp. 126	2	4	4	4	5	4	4	4	4	4	4	2	3		Yes	
Resp. 127	2	5	3	5	4	3	3	4	4	4	4	1	3		Yes	
Resp. 128	2	2	2	4	4	3	2	2	4	4	3	2	2			
Resp. 129	2	2	4	4	3	4	4	4	5	3	4	1	1		Yes	
Resp. 130	2	5	4	4	4	5	5	5	4	4	5	4	2			
Resp. 131	2	4	4	2	2	4	5	5	2	2	4	4	2			
Resp. 132	2	2	2	1	3	2	4	4	2	2	2	2	1			
Resp. 133	2	1	3	1	2	3	1	3	1	2	3	2	2			
Resp. 134	2	2	2	1	1	3	4	4	1	1	4	2	3			
Resp. 135	2	4	4	3	2	2	5	5	4	2	3	2	5			
Resp. 136	2	1	1	4	4	4	4	4	4	4	4	5	4			
Resp. 137	2	2	2	3	2	1	4	4	4	2	3	2	3			
Resp. 138	2	5	4	3	2	3	5	5	3	2	3	2	2			
Resp. 139	2	5	5	1	2	2	5	5	1	2	2	2	2			
Resp. 140	2	2	1	1	2	3	4	4	2	2	3	3	2			
Resp. 141																
Resp. 142	2	4	4	2	2	3	4	4	3	3	3	3	3			
Resp. 143	2	4	4	3	4	4	5	5	3	4	4	2	2		Yes	
Resp. 144	2	2	2	1	3	2	4	4	2	3	3	2	3			
Resp. 145	2	4	4	2	1	1	4	4	3	1	2	1	2			
Resp. 146	2	3	4	2	2	2	3	3	1	1	1	5	1			
Resp. 147	2	3	4	4	2	2	2	2	4	2	1	3	3			
Resp. 148	2	2	2	1	2	1	3	3	2	1	3	4	2			
Resp. 149	2	2	3	2	4	1	4	4	2	1	1	5	1			
Resp. 150	2	2	4	2	2	2	2	3	2	1	2	4	2			
Resp. 151																
Resp. 152	2	2	1	1	4	3	2	2	2	2	2	4	1			
Resp. 153																
Resp. 154	2	4	4	2	2	3	5	5	2	2	3	3	2			
Resp. 155	2	2	1	3	2	2	3	2	2	2	3	4	1			
Resp. 156	2	2	2	1	2	3	2	3	1	2	3	4	1			

Appendix A-3: Individual Data Entry – Excluding No Sense (Page 4 of 4)

	1=Big 5..... 2=Non Big-5	1-1	1-2	1-3	1-4	1-5	2-1	2-2	2-3	2-4	2-5	3	4	Notes	Little Sense	No Sense
Resp. 157	2	1	1	1	2	1	5	5	1	2	2	3	1			
Resp. 158																
Resp. 159	2	2	1	1	1	1	5	4	3	2	3	3	1			
Resp. 160	2	2	2	4	3	3	2	2	4	3	3	2	2			
Resp. 161																
Resp. 162	2	2	3	1	2	4	3	2	2	1	3	3	2			
Resp. 163	2	2	2	1	3	3	4	4	2	1	2	4	3			
Resp. 164	2	2	2	1	2	2	2	3	3	1	3	4	2			
Resp. 165	2	1	1	2	1	3	1	1	4	2	3	2	2			
Resp. 166	2	4	4	1	2	3	5	5	4	4	4	4	3			
Resp. 167	2	3	3	3	3	3	3	3	3	3	3	4	2			
Resp. 168	2	2	2	3	3	3	2	2	2	2	2	4	3			
Resp. 169	2	2	4	2	2	3	3	2	3	2	2	4	2			
Resp. 170	2	2	2	5	2	2	4	4	5	2	2	2	3			
Resp. 171	2	5	4	2	4	3	5	5	2	2	3	3	2			
Resp. 172	2	3	3	4	2	4	4	4	3	3	4	2	3			
Resp. 173	2	2	2	3	3	3	2	2	3	3	2	4	2			
Resp. 174	1	5	1	5	5	2	5	4	5	5	4	5	1			
Resp. 175																
Resp. 176	1	4	4	1	1	3	5	5	2	1	4	2	3			
Resp. 177	1	5	5	1	5	1	5	5	1	1	1	4	1			
Big 5:	**Result Summary**															
# Surveyed:	104															
# Respond:	85															
Resp Rate:	81.73%															
# Included:	82															
% Included:	96.47%															
# No sense:	0															
# Lil sense:	12															
Choice (1-5)	**Questions:**	**1-1**	**1-2**	**1-3**	**1-4**	**1-5**	**2-1**	**2-2**	**2-3**	**2-4**	**2-5**	**3**	**4**			
1	# Answered:	7	6	21	22	7	4	4	13	16	5	22	14			
2	# Answered:	7	10	34	32	25	3	3	29	28	14	48	46			
3	# Answered:	7	12	6	11	27	3	5	17	20	26	5	15			
4	# Answered:	32	33	14	9	16	22	29	16	13	25	4	6			
5	# Answered:	29	21	7	8	7	50	41	7	5	12	3	1			
	Total:	82	82	82	82	82	82	82	82	82	82	82	82			
	Weighted #:	3.8	3.6	2.4	2.4	2.9	4.4	4.2	2.7	2.5	3.3	2	2.2			
Non Big 5:																
# Surveyed:	142															
# Respond:	92															
Resp Rate:	64.79%															
# Included:	80															
% Included:	86.96%															
# No sense:	0															
# Lil sense:	7															
Choice (1-5)	**Questions:**	**1-1**	**1-2**	**1-3**	**1-4**	**1-5**	**2-1**	**2-2**	**2-3**	**2-4**	**2-5**	**3**	**4**			
1	# Answered:	12	14	28	13	13	7	5	14	17	7	11	17			
2	# Answered:	27	20	24	35	21	11	13	29	34	20	35	36			
3	# Answered:	11	10	13	16	28	9	9	17	16	29	11	21			
4	# Answered:	15	28	13	14	16	24	28	15	10	20	19	3			
5	# Answered:	15	8	2	2	2	29	25	5	3	4	4	3			
	Total:	80	80	80	80	80	80	80	80	80	80	80	80			
	Weighted #:	2.9	3	2.2	2.5	2.7	3.7	3.7	2.6	2.4	2.9	2.6	2.2			

Appendix A-4: Individual Data Entry – Excluding Both No and Lil' Sense (Page 1 of 4)

		1=Strongly Agree, 5=Strongly Disagree (Reverse Ques. 3)														
	1=Big 5..... 2=Non Big-5	1-1	1-2	1-3	1-4	1-5	2-1	2-2	2-3	2-4	2-5	3	4	Notes	Little Sense	No Sense
Resp. 1	1	1	1	2	5	4	5	5	2	5	5	1	2	Yes		
Resp. 2	1	4	4	2	2	4	4	4	2	2	4	2	4			
Resp. 3	1	4	4	2	2	3	5	5	3	3	3	1	1			
Resp. 4																
Resp. 5	1	5	5	1	1	2	5	5	1	1	2	2	5			
Resp. 6	1	4	4	2	2	2	5	5	3	2	3	2	4			
Resp. 7																
Resp. 8	1	4	4	4	2	2	5	4	3	3	3	2	4			
Resp. 9	1	3	3	3	3	3	3	3	3	3	1	3	2			
Resp. 10	1	5	5	2	1	3	5	5	2	1	3	1	2			
Resp. 11	1	4	4	2	2	3	4	4	3	3	3	2	2			
Resp. 12	1	4	3	1	1	2	4	4	2	3	3	2	2			
Resp. 13	1	4	3	2	1	3	5	5	4	1	3	2	2			
Resp. 14																
Resp. 15																
Resp. 16	1	2	2	2	2	2	5	5	2	2	4	1	2			
Resp. 17	1	2	2	4	2	2	4	4	2	2	4	3	2			
Resp. 18	1	1	1	2	3	2	3	3	3	3	5	5	1			
Resp. 19																
Resp. 20	1	4	4	1	2	3	4	4	1	2	3	2	3			
Resp. 21	1	5	5	2	2	3	5	5	2	2	5	3	3			
Resp. 22	1	3	3	2	2	2	5	5	2	4	4	3	4			
Resp. 23	1	2	4	3	2	3	2	3	2	2	2	4	1			
Resp. 24	1	3	3	2	3	3	3	3	3	3	3	2	2			
Resp. 25	1	1	1	3	2	2	1	1	3	2	2	1	1			
Resp. 26																
Resp. 27																
Resp. 28																
Resp. 29	1	4	4	2	2	4	4	4	2	2	4	2	2			
Resp. 30	1	1	2	2	2	2	1	2	2	2	2	2	3			
Resp. 31	1	4	5	1	1	3	4	5	1	1	4	2	4			
Resp. 32	1	4	4	1	1	3	5	4	3	4	3	3	3			
Resp. 33	1	4	4	2	3	3	4	4	2	3	3	2	2			
Resp. 34	1	5	5	3	3	2	5	5	3	3	2	2	2			
Resp. 35	1	5	5	1	1	1	5	5	2	3	2	5	2			
Resp. 36	1	5	4	4	2	4	5	5	4	2	4	2	2			
Resp. 37	1	2	2	2	2	3	2	2	2	2	3	2	2			
Resp. 38	1	4	4	2	1	2	5	5	2	2	3	1	2			
Resp. 39	1	4	3	1	5	3	5	1	1	3	1	1	2			
Resp. 40	1	4	4	2	1	2	5	4	4	2	2	2	2			
Resp. 41																
Resp. 42	1	5	4	3	2	2	5	4	4	2	3	2	2			
Resp. 43	1	5	4	2	1	3	5	5	2	2	4	2	3			
Resp. 44	1	4	3	1	1	1	4	4	2	1	2	2	3			
Resp. 45	1	5	5	2	1	4	5	5	4	1	5	2	2			
Resp. 46	1	5	2	4	4	2	5	3	4	3	4	2	2			
Resp. 47	1	1	1	1	2	4	1	1	1	1	2	2	1			
Resp. 48	1	4	4	1	1	1	5	5	2	2	2	2	1			
Resp. 49																
Resp. 50	1	3	4	4	2	4	5	5	2	2	4	2	2			
Resp. 51	1	3	2	2	2	3	4	4	2	3	3	2	3			
Resp. 52	1	5	4	1	1	3	5	5	1	1	3	1	1			

Appendix A-4: Individual Data Entry – Excluding Both No and Lil' Sense (Page 2 of 4)

		1=Strongly Agree, 5=Strongly Disagree (Reverse Ques. 3)														
	1=Big 5..... 2=Non Big-5	1-1	1-2	1-3	1-4	1-5	2-1	2-2	2-3	2-4	2-5	3	4	Notes	Little Sense	No Sense
Resp. 53	1	4	4	2	3	3	4	4	2	3	3	2	2			
Resp. 54	1	4	4	4	2	3	4	4	4	2	3	2	2			
Resp. 55	1	4	4	1	2	5	4	4	2	2	3	1	3			
Resp. 56	1	3	3	2	4	4	4	4	2	4	4	2	2			
Resp. 57	1	2	2	1	1	1	5	4	3	2	4	1	1			
Resp. 58	1	1	1	1	1	1	1	1	1	1	1	1	1			
Resp. 59	1	1	2	1	2	2	2	2	1	2	2	1	2			
Resp. 60	1	5	5	2	4	2	5	5	3	3	2	2	2			
Resp. 61	1	4	4	4	4	2	4	4	4	4	2	4	2			
Resp. 62	1	5	5	5	1	5	5	5	5	1	5	1	2			
Resp. 63	1	5	5	1	1	1	5	5	1	1	1	2	3			
Resp. 64	1	5	4	2	3	2	5	5	2	3	3	1	2			
Resp. 65	1	4	4	2	2	2	5	4	3	3	3	2	3			
Resp. 66	1	4	5	2	1	4	5	5	2	2	4	2	2			
Resp. 67	1	2	2	1	2	3	4	4	2	2	4	2	2			
Resp. 68																
Resp. 69																
Resp. 70	1	4	3	4	1	4	4	4	4	1	4	1	2			
Resp. 71	1	4	4	2	1	4	4	4	1	1	4	2	3			
Resp. 72	1	4	4	4	2	2	4	4	1	1	2	1	2			
Resp. 73	1	5	4	3	2	2	5	5	3	2	3	2	3			
Resp. 74	1	5	5	2	2	4	5	5	2	2	4	2	1			
Resp. 75	1	5	5	2	2	4	5	5	3	3	5	4	1			
Resp. 76	1	5	3	1	3	3	5	5	3	3	3	2	2			
Resp. 77	1	3	3	2	2	3	4	4	4	2	3	2	2			
Resp. 78	1	4	4	2	3	2	5	5	2	4	3	1	2			
Resp. 79	1	5	5	1	2	5	5	5	1	2	5	1	2	Yes		
Resp. 80																
Resp. 81																
Resp. 82																
Resp. 83																
Resp. 84																
Resp. 85	2	5	5	2	1	4	5	5	2	1	4	1	2	Yes		
Resp. 86	2	3	3	2	1	2	4	4	3	2	2	2	3			
Resp. 87	2	5	5	2	1	2	5	5	3	2	4	2	1			
Resp. 88	2	1	1	3	1	1	3	3	2	1	2	3	2			
Resp. 89	2	5	5	1	1	2	5	5	1	1	2	1	1			
Resp. 90	2	3	2	4	2	1	4	4	4	2	1	2	1			
Resp. 91	2	5	5	2	2	4	5	5	2	2	4	1	2			
Resp. 92																
Resp. 93																
Resp. 94	2	1	2	3	4	4	2	2	2	4	4	4	3			
Resp. 95	2	4	4	1	1	3	5	5	1	1	3	1	3			
Resp. 96	2	3	4	4	3	4	4	4	4	2	4	2	4			
Resp. 97	2	5	4	2	2	4	5	4	2	2	4	4	2			
Resp. 98	2	2	2	1	2	1	4	2	3	2	2	3	3			
Resp. 99	2	4	4	2	2	2	5	5	5	5	5	4	2			
Resp. 100	2	3	3	2	1	1	4	4	2	1	1	3	2			
Resp. 101	2	1	2	3	2	1	1	2	3	2	1	2	1			
Resp. 102	2	1	1	1	3	2	1	1	1	3	2	2	2			
Resp. 103	2	3	3	3	4	4	3	3	2	2	3	5	3			
Resp. 104	2	2	2	1	1	2	4	4	2	3	4	2	5			

Appendix A-4: Individual Data Entry – Excluding Both No and Lil' Sense (Page 3 of 4)

		1=Strongly Agree, 5=Strongly Disagree (Reverse Ques. 3)														
	1=Big 5..... 2=Non Big-5	1-1	1-2	1-3	1-4	1-5	2-1	2-2	2-3	2-4	2-5	3	4	Notes	Little Sense	No Sense
Resp. 105	2	4	4	4	2	3	5	5	5	1	3	1	5			
Resp. 106	2	4	4	1	2	3	4	4	2	1	3	2	1			
Resp. 107	2	5	4	1	3	3	5	4	1	3	3	1	1			
Resp. 108	2	4	4	2	4	2	4	4	2	4	2	2	2			
Resp. 109	2	5	4	1	3	2	5	5	1	3	3	4	3			
Resp. 110	2	5	5	2	2	4	5	5	1	3	4	2	2			
Resp. 111	2	2	2	2	4	3	4	4	3	3	3	4	2			
Resp. 112	2	1	1	1	1	2	1	1	1	1	2	2	4			
Resp. 113	2	1	1	1	3	2	1	1	1	3	2	2	3			
Resp. 114	2	1	1	1	2	1	1	1	2	2	2	2	2			
Resp. 115																
Resp. 116																
Resp. 117																
Resp. 118																
Resp. 119	2	2	1	1	5	1	5	5	2	2	1	2	3			
Resp. 120	2	5	5	2	2	4	5	5	2	2	4	2	2			
Resp. 121	2	2	3	2	3	3	2	2	2	3	3	2	2			
Resp. 122																
Resp. 123	2	5	5	2	3	3	5	5	3	2	3	2	3			
Resp. 124	2	3	4	2	3	4	4	4	4	3	3	2	2			
Resp. 125	2	4	4	1	2	3	5	5	2	2	4	1	2			
Resp. 126																
Resp. 127																
Resp. 128	2	2	2	4	4	3	2	2	4	4	3	2	2			
Resp. 129																
Resp. 130	2	5	4	4	4	5	5	5	4	4	5	4	2			
Resp. 131	2	4	4	2	2	4	5	5	2	2	4	4	2			
Resp. 132	2	2	2	1	3	2	4	4	2	2	2	2	1			
Resp. 133	2	1	3	1	2	3	1	3	1	2	3	2	2			
Resp. 134	2	2	2	1	1	3	4	4	1	1	4	2	3			
Resp. 135	2	4	4	3	2	2	5	5	4	2	3	2	5			
Resp. 136	2	1	1	4	4	4	4	4	4	4	4	5	4			
Resp. 137	2	2	2	3	2	1	4	4	4	2	3	2	3			
Resp. 138	2	5	4	3	2	3	5	5	3	2	3	2	2			
Resp. 139	2	5	5	1	2	2	5	5	1	2	2	2	2			
Resp. 140	2	2	1	1	2	3	4	4	2	2	3	3	2			
Resp. 141																
Resp. 142	2	4	4	2	2	3	4	4	3	3	3	3	3			
Resp. 143																
Resp. 144	2	2	2	1	3	2	4	4	2	3	3	2	3			
Resp. 145	2	4	4	2	1	1	4	4	3	1	2	1	2			
Resp. 146	2	3	4	2	2	2	3	3	1	1	1	5	1			
Resp. 147	2	3	4	4	2	2	2	2	4	2	1	3	3			
Resp. 148	2	2	2	1	2	1	3	3	2	1	3	4	2			
Resp. 149	2	2	3	2	4	1	4	4	2	1	1	5	1			
Resp. 150	2	2	4	2	2	2	2	3	2	1	2	4	2			
Resp. 151																
Resp. 152	2	2	1	1	4	3	2	2	2	2	2	4	1			
Resp. 153																
Resp. 154	2	4	4	2	2	3	5	5	2	2	3	3	2			
Resp. 155	2	2	1	3	2	2	3	2	2	2	3	4	1			
Resp. 156	2	2	2	1	2	3	2	3	1	2	3	4	1			

Appendix A-4: Individual Data Entry – Excluding Both No and Lil' Sense (Page 4 of 4)

	1=Big 5..... 2=Non Big-5	1-1	1-2	1-3	1-4	1-5	2-1	2-2	2-3	2-4	2-5	3	4	Notes	Little Sense	No Sense
Resp. 157	2	1	1	1	2	1	5	5	1	2	2	3	1			
Resp. 158																
Resp. 159	2	2	1	1	1	1	5	4	3	2	3	3	1			
Resp. 160	2	2	2	4	3	3	2	2	4	3	3	2	2			
Resp. 161																
Resp. 162	2	2	3	1	2	4	3	2	2	1	3	3	2			
Resp. 163	2	2	2	1	3	3	4	4	2	1	2	4	3			
Resp. 164	2	2	2	1	2	2	2	3	3	1	3	4	2			
Resp. 165	2	1	1	2	1	3	1	1	4	2	3	2	2			
Resp. 166	2	4	4	1	2	3	5	5	4	4	4	4	3			
Resp. 167	2	3	3	3	3	3	3	3	3	3	3	4	2			
Resp. 168	2	2	2	3	3	3	2	2	2	2	2	4	3			
Resp. 169	2	2	4	2	2	3	3	2	3	2	2	4	2			
Resp. 170	2	2	2	5	2	2	4	4	5	2	2	2	3			
Resp. 171	2	5	4	2	4	3	5	5	2	2	3	3	2			
Resp. 172	2	3	3	4	2	4	4	4	3	3	4	2	3			
Resp. 173	2	2	2	3	3	3	2	2	3	3	2	4	2			
Resp. 174	1	5	1	5	5	2	5	4	5	5	4	5	1			
Resp. 175																
Resp. 176	1	4	4	1	1	3	5	5	2	1	4	2	3			
Resp. 177	1	5	5	1	5	1	5	5	1	1	1	4	1			
Big 5:	**Result Summary**															
# Surveyed:	104															
# Respond:	85															
Resp Rate:	81.73%															
# Included:	70															
% Included:	82.35%															
# No sense:	0															
# Lil sense:	0															
Choice (1-5)	**Questions:**	**1-1**	**1-2**	**1-3**	**1-4**	**1-5**	**2-1**	**2-2**	**2-3**	**2-4**	**2-5**	**3**	**4**			
1	# Answered:	7	6	21	22	7	4	4	13	16	5	18	13			
2	# Answered:	6	9	32	31	24	3	3	29	28	14	40	38			
3	# Answered:	7	11	6	9	23	3	5	16	19	25	5	13			
4	# Answered:	28	29	9	4	13	20	26	10	5	19	4	5			
5	# Answered:	22	15	2	4	3	40	32	2	2	7	3	1			
	Total:	70	70	70	70	70	70	70	70	70	70	70	70			
	Weighted #:	3.7	3.5	2.1	2.1	2.7	4.3	4.1	2.4	2.3	3.1	2.1	2.2			
Non Big 5:																
# Surveyed:	142															
# Respond:	92															
Resp Rate:	64.79%															
# Included:	73															
% Included:	79.35%															
# No sense:	0															
# Lil sense:	0															
Choice (1-5)	**Questions:**	**1-1**	**1-2**	**1-3**	**1-4**	**1-5**	**2-1**	**2-2**	**2-3**	**2-4**	**2-5**	**3**	**4**			
1	# Answered:	11	13	28	13	13	7	5	14	17	7	8	14			
2	# Answered:	26	19	24	34	20	11	13	29	34	20	31	34			
3	# Answered:	10	9	11	15	26	8	9	15	15	29	11	19			
4	# Answered:	12	24	9	10	13	22	24	12	6	15	19	3			
5	# Answered:	14	8	1	1	1	25	22	3	1	2	4	3			
	Total:	73	73	73	73	73	73	73	73	73	73	73	73			
	Weighted #:	2.9	2.9	2.1	2.3	2.6	3.6	3.6	2.5	2.2	2.8	2.7	2.3			

Appendix A-5: Independent Statistician Report (Page 1 of 8)

The Opinions of tax professionals concerning the effect of tax software packages on their Clienteles: Big 5 versus other companies.

Background

A variety of software packages are now available to the public to assist people in filing their income tax. These programs will become increasingly user friendly over time. Therefore, it is of interest to determine whether or not accountants are concerned about possible loss in business because of these programs.

Data

The list of accounting firms was largely comprised of the list of companies attending a business-recruiting event in 1999. The sample was a cluster sample since clusters of consultants were polled in each company. The Big 5 companies in Cleveland, Columbus, and Cincinnati were included. Non big-five companies in these cities were also included. The sample was somewhat of a self select sample because the eligibility criterion was willingness of the point of contact person to participate in the poll. Among those willing to participate there was an 72% response rate.

Research Hypotheses

1. Tax professionals are generally not threatened by the emergence of user friendly tax software?
2. Big Five tax professionals are less threatened by tax software than non big-five consultants?

Statistical Methods

Graphical Summaries were used to compare the distributions of the responses to questions by the Big 5 versus non big 5 accountants. These summaries included histograms and side-by-side box plots. Distribution shifted to the left in a histogram or shifted down in a box plot reflect a greater proportion of professionals agreeing that a factor limits tax preparation software programs. Confidence intervals for the difference in means, Big 5 minus Non big 5 professionals were constructed assuming normally distributed errors and allowing for over dispersion resulting from possibly correlated responses of professionals working in the same company (McCullagh, and Nelder, 1989). A negative estimate for the difference in mean scores suggest that the Big 5 mean is smaller than the non big 5 mean, and that big 5 accountants feel more strongly that the factor limits tax preparation software programs.

Summary of Findings

A Comparison of means with 3, a neutral response:

The most important question, question 3 asked how concerned the accountants were about the possibility that their clients would switch to using a personal tax preparation software programs.

The confidence interval for the Big 5 mean was clearly below Neutral on this question (1.867, 2.298) while the confidence interval for the non big 5 included neutral, (2.598,3.098). Both groups are willing to share information that would improve software programs. Both groups agree that the software programs are unable to handle complex issues/new tax laws and unable to provide an overall sense of security. This was true when considering both the present and future limitations of the personal software.

A Comparison of Big 5 versus Non Big 5 responses:

The most important question, question 3 asked how concerned the tax professionals were about the possibility that their clients would switch to using a personal tax preparation software programs. Big 5 accountants were significantly less concerned about this. The difference in means was estimated to be -.76 (with a 95% confidence interval of (–1.098, -.433)). Hence the difference in means was estimated to be anywhere from ½ a unit to a unit. The other questions where there was a significant difference between the two groups concerned whether or not they believed that access to a computer (1-1, 2-1) or access to software/Internet (1-2, 2-2) limits programs presently or in the future. The Big 5 group had larger mean scores on these questions suggesting that they felt that this was less of a limitation for the personal tax preparation software programs. The big 5 accountants were less concerned about user friendliness being a present limitation of personal software programs also, although this comparison was not significant after a Bonferroni adjustment was made to ensure the simultaneous coverage of all the 5 limiting factors was held to 95%. The findings were the consistent after outliers were set aside. Although the differences in mean scores were smaller when outliers were set aside.

Detailed Comments

Point estimates and confidence intervals are displayed in the tables below. The first set of tables are the estimated means and Bonferroni Simultaneous confidence intervals for the mean scores. A score of 3 is considered neutral.

Big 5

Label	Estimate	Standard Error	Alpha	Lower	Upper	Chi-Square	Pr > ChiSq
q3	2.0824	0.11	0.05	1.8667	2.298	358.24	<.0001
q4	2.1882	0.0924	0.05	2.0071	2.3694	560.58	<.0001
q11	3.7412	0.1441	0.01	3.3699	4.1124	673.84	<.0001
q12	3.5765	0.1343	0.01	3.2306	3.9224	709.33	<.0001
q13	2.3882	0.1381	0.01	2.0325	2.744	299.03	<.0001
q14	2.3412	0.1365	0.01	1.9895	2.6929	294.01	<.0001
q15	2.8471	0.1189	0.01	2.5407	3.1534	572.95	<.0001
q21	4.2471	0.1285	0.01	3.9162	4.5779	1093.2	<.0001
q22	4.1176	0.1268	0.01	3.791	4.4443	1054.3	<.0001
q23	2.6471	0.1315	0.01	2.3084	2.9857	405.39	<.0001
q24	2.5059	0.1259	0.01	2.1815	2.8303	395.91	<.0001
q25	3.2471	0.1229	0.01	2.9305	3.5636	698.25	<.0001

Non Big 5

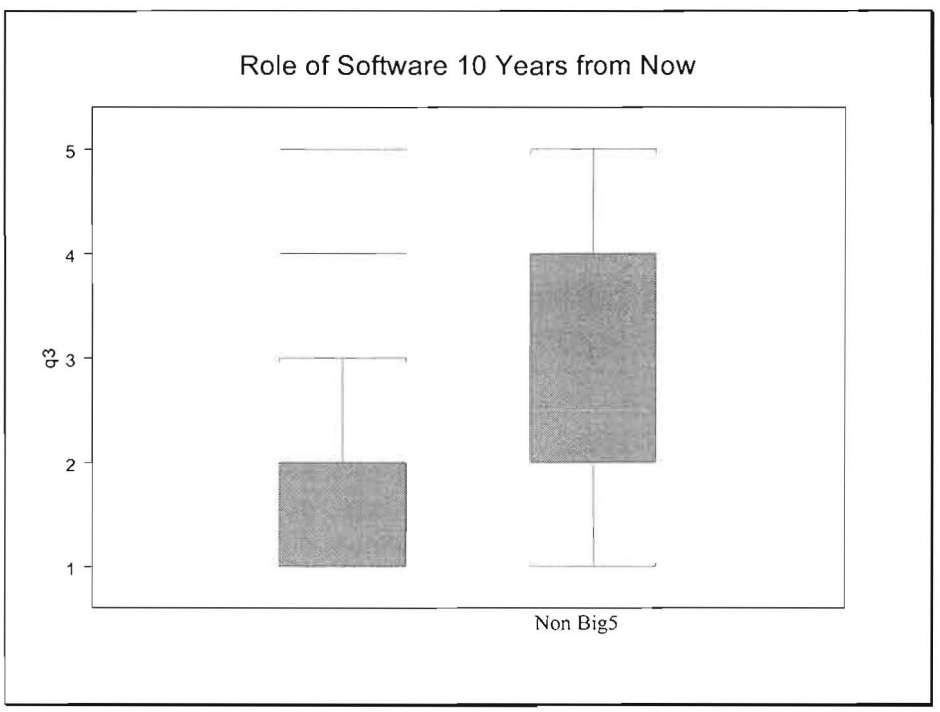
Label	Estimate	Standard Error	Alpha	Lower	Upper	Chi-Square	Pr > ChiSq
q3	2.8478	0.1274	0.05	2.5981	3.0975	499.73	<.0001
q4	2.2174	0.0988	0.05	2.0238	2.411	504.13	<.0001
q11	2.6957	0.148	0.01	2.3143	3.077	331.57	<.0001
q12	2.75	0.1405	0.01	2.3881	3.1119	383.14	<.0001
q13	2.1413	0.1173	0.01	1.8392	2.4434	333.33	<.0001
q14	2.4239	0.1051	0.01	2.1532	2.6946	531.95	<.0001
q15	2.5217	0.1109	0.01	2.2361	2.8074	517.1	<.0001
q21	3.4022	0.1554	0.01	3.0019	3.8024	479.44	<.0001
q22	3.4022	0.145	0.01	3.0286	3.7758	550.22	<.0001
q23	2.4565	0.1221	0.01	2.142	2.771	404.73	<.0001
q24	2.2935	0.1088	0.01	2.0133	2.5737	444.48	<.0001
q25	2.75	0.1132	0.01	2.4585	3.0415	590.33	<.0001

Including Outliers

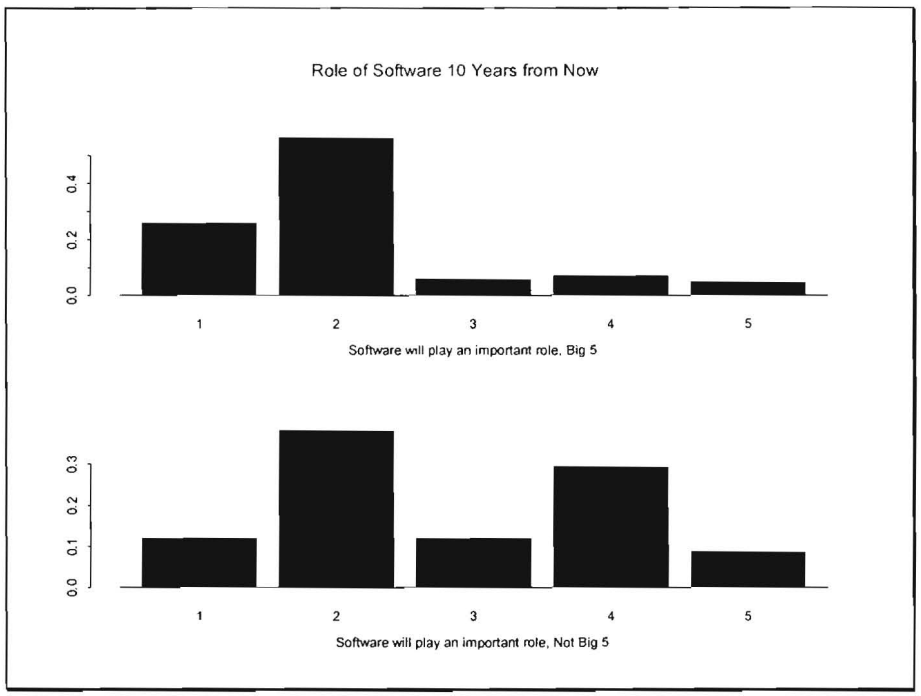
Label	Estimate	Standard Error	Alpha	Lower	Upper	Chi-Square	Pr > ChiSq
q3	-0.7655	0.1696	0.05	-1.0978	-0.4331	20.38	<.0001
q4	-0.0292	0.1358	0.05	-0.2954	0.2371	0.05	0.83
q11	1.0455	0.2072	0.01	0.5119	1.5791	25.47	<.0001
q12	0.8265	0.195	0.01	0.3242	1.3288	17.96	<.0001
q13	0.2469	0.1803	0.01	-0.2175	0.7114	1.88	0.1708
q14	-0.0827	0.1708	0.01	-0.5227	0.3572	0.23	0.6281
q15	0.3253	0.1624	0.01	-0.0931	0.7437	4.01	0.0452
q21	0.8449	0.2034	0.01	0.3209	1.3689	17.25	<.0001
q22	0.7155	0.194	0.01	0.2158	1.2151	13.6	0.0002
q23	0.1905	0.1792	0.01	-0.271	0.6521	1.13	0.2876
q24	0.2124	0.1657	0.01	-0.2145	0.6393	1.64	0.1999
q25	0.4971	0.1668	0.01	0.0675	0.9267	8.88	0.0029

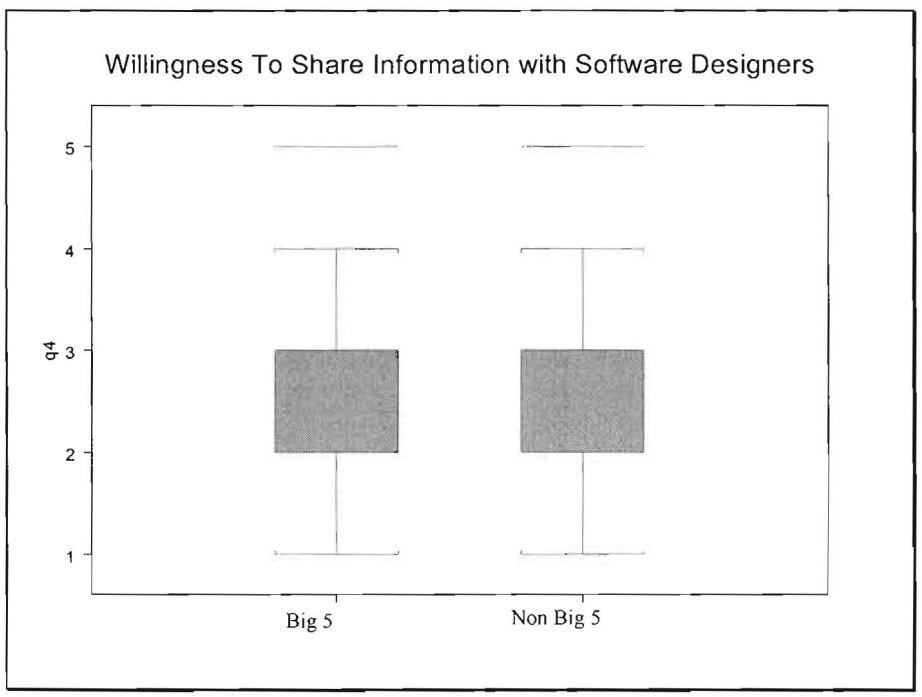
Excluding Outliers

Label	Estimate	Standard Error	Alpha	Lower	Upper	Chi-Square	Pr > ChiSq
q3	-0.6689	0.1772	0.05	-1.0163	-0.3215	14.24	0.0002
q4	-0.0883	0.1538	0.05	-0.3896	0.2131	0.33	0.5659
q11	0.8524	0.2221	0.01	0.2804	1.4245	14.73	0.0001
q12	0.6114	0.2127	0.01	0.0634	1.1593	8.26	0.0041
q13	0.0738	0.1802	0.01	-0.3904	0.538	0.17	0.6822
q14	-0.2425	0.173	0.01	-0.688	0.2031	1.97	0.161
q15	0.1532	0.1712	0.01	-0.2878	0.5942	0.8	0.3708
q21	0.6276	0.2073	0.01	0.0935	1.1616	9.16	0.0025
q22	0.5121	0.1998	0.01	-0.0025	1.0267	6.57	0.0104
q23	-0.0515	0.1799	0.01	-0.515	0.412	0.08	0.7749
q24	0.0933	0.161	0.01	-0.3212	0.5079	0.34	0.5619
q25	0.3341	0.1712	0.01	-0.1071	0.7752	3.81	0.0511

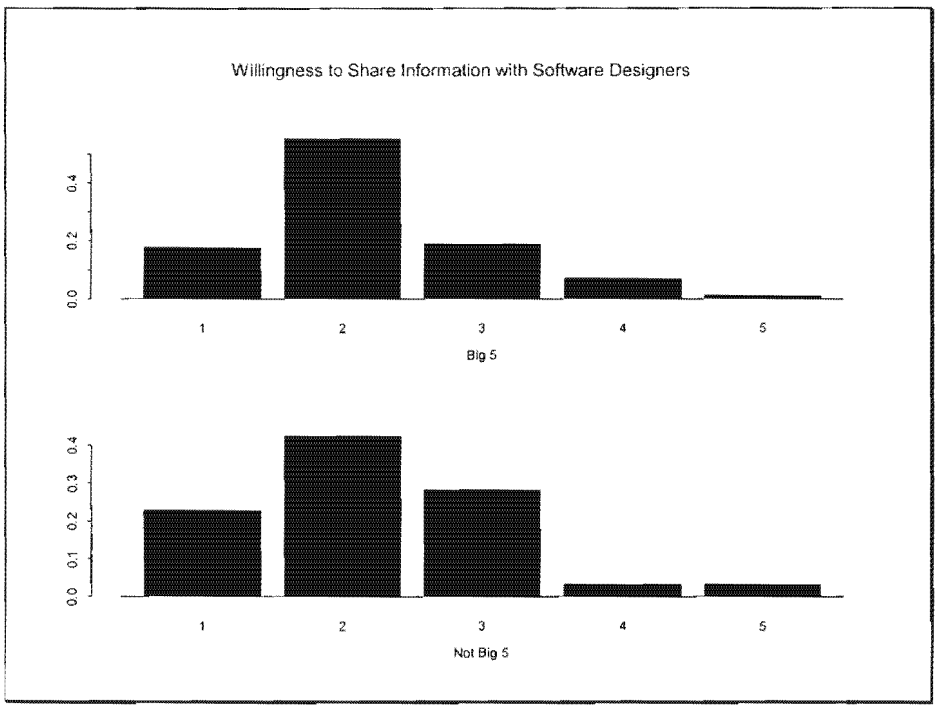


Appendix A-5: Independent Statistician Report (Page 5 of 8)



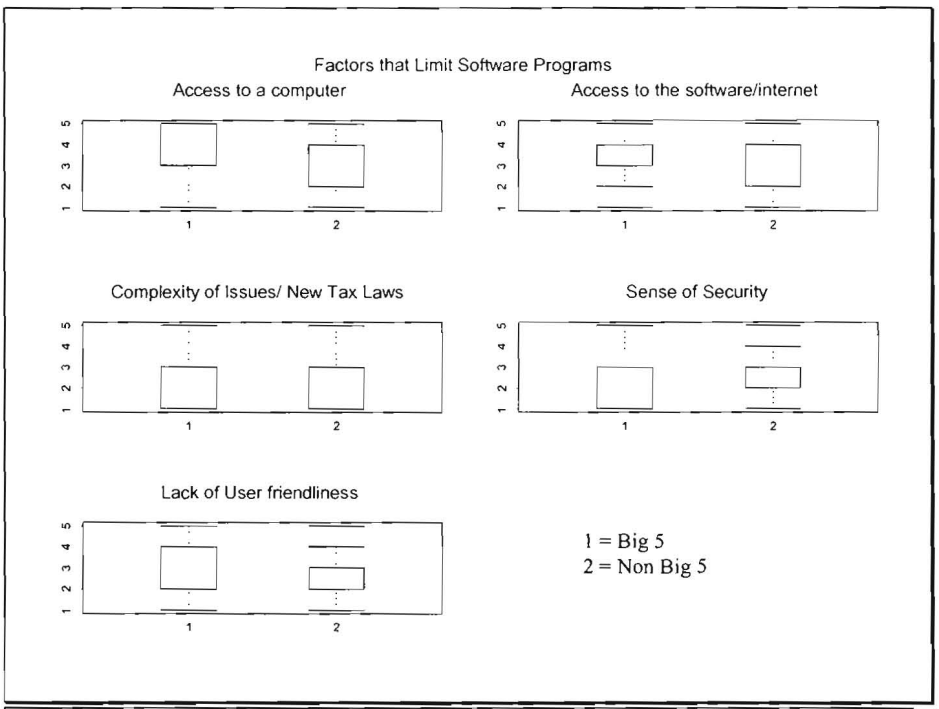


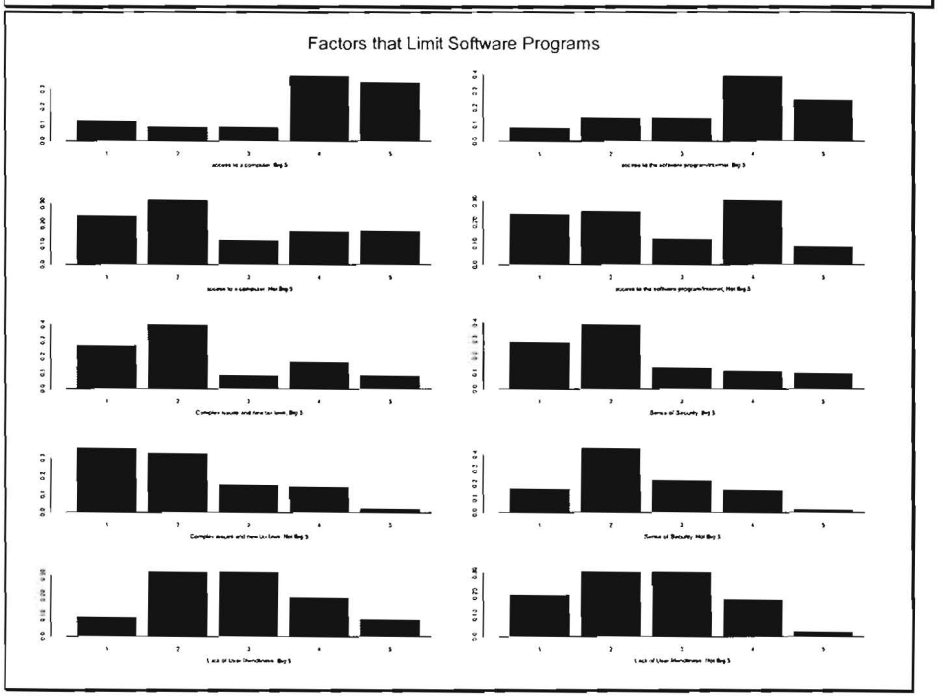
Appendix A-5: Independent Statistician Report (Page 6 of 8)



Appendix A-5: Independent Statistician Report (Page 7 of 8)

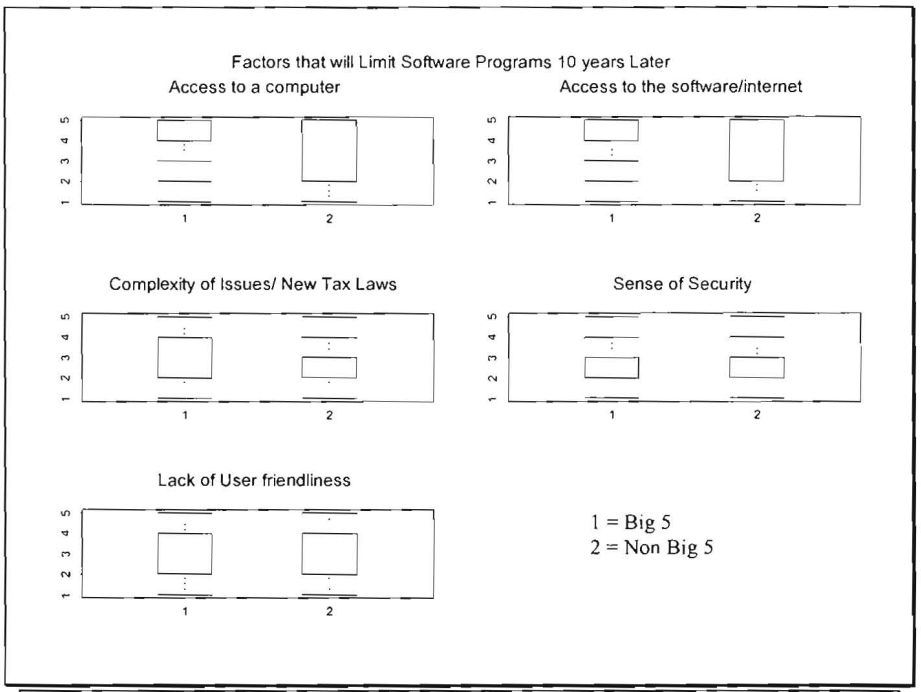
Question 1: Factors that presently limit personal software packages.

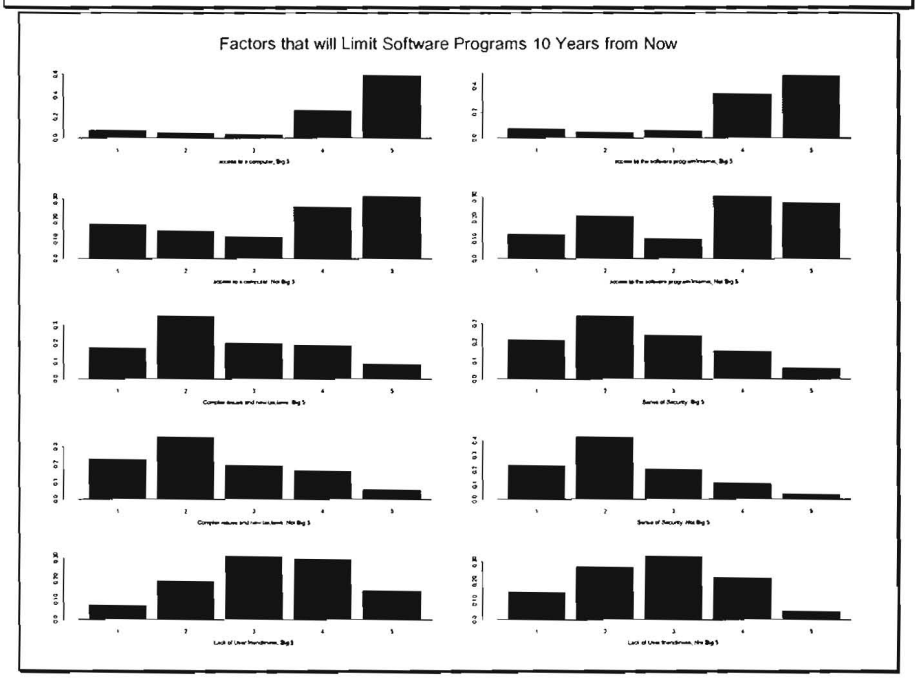




Appendix A-5: Independent Statistician Report (Page 8 of 8)

Question 2: Factors that will limit personal software packages 10 years from now.





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